



Modern Methods

in

Elementary

Education

edited by MERLE M. OHLSEN

MODERN METHODS IN ELEMENTARY EDUCATION

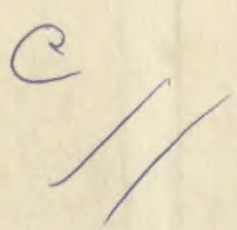
Edited by MERLE M. OHLSEN

Professor of Education,
University of Illinois

PRE-EMINENTLY PRACTICAL in approach and realistic in viewpoint, *Modern Methods in Elementary Education* brings the teacher-in-training close to the reality of the boys and girls who will be in the classroom when he starts to teach.

Based on actual case materials that are the result of an extensive survey conducted among several thousand classroom teachers, it represents the combined efforts of 14 authors—each an experienced teacher and expert in his particular field. Putting principal emphasis on learner-centered teaching, the text defines a workable program in each learning area, identifies major learning problems, and offers pre-tested techniques for the handling of these problems. Included at the end of each chapter is an annotated bibliography for further study in the specific area discussed.

Written primarily for the beginning teacher, *Modern Methods in Elementary Education* may be used either as a methods text in a small teacher-education institution which offers a single elementary methods course, or as a student teaching text in a large institution which offers special methods courses in each of the basic subject areas.



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To our friend and colleague

Edwin Hewett Reeder

1892-1957

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Preface

THIS BOOK was written to help the beginning elementary-school teacher solve the problems which he meets in his day-to-day work. My colleagues and I also hope that our book will help the teacher to better understand his pupils and to appreciate the rationale for teaching the subject matter he teaches and the factors which seem to influence learning. While working toward these goals we have tried to be flexible enough to allow each specialist the freedom to deal with the problems in his field as he saw fit, and at the same time to use group discussion to achieve consensus on the major issues. Personally, I am grateful to my colleagues for the effort they made to achieve these objectives.

Our reviewers have suggested that experienced elementary-school teachers and principals will find this text useful for in-service education. Both of the principals who read the manuscript commented on its value for helping principals "brush up" on weak areas to enable them to talk more intelligently with supervisors and curriculum committees concerned with progress in the various subject areas. Consequently, we have prepared an annotated bibliography for each chapter to help these persons locate references for further study in those areas in which they may feel least competent. We also hope that these annotated references, and the other suggested teaching aids, will help

the overworked college professor find the materials he needs to do the quality of teaching he enjoys.

Finally, we fear that many sincere parents have been confused by the emotional appraisals of public education. We believe, therefore, that many of them may be interested in using this book to determine what they may expect from their schools.

Urbana, Illinois
May 1959

MERLE M. OHLSEN

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MODERN METHODS IN ELEMENTARY EDUCATION

Introduction

TEACHING is an interesting and challenging vocation. Even within an authoritarian administrative structure, the teacher is permitted to make many decisions concerning his professional activities. As a teacher, and especially as an elementary school teacher in a self-contained classroom, he has many opportunities to get to know his pupils as individuals and help them understand themselves, to discover and to use their special abilities, aptitudes, and interests, to master important concepts and skills, and to apply relevant information in solving problems.

Every day the teacher faces many and varied problems. For some he recognizes the solutions immediately. Others require thoughtful study, and sometimes assistance from colleagues. Still others go unnoticed. The purpose of this book is to provide the beginning elementary-school teacher, and especially the student teacher, with assistance in solving his major teaching problems and to alert him to other problems which may have escaped his attention but which interfere with his teaching success. In addition to our own suggestions, we have included at the end of each chapter an annotated bibliography to aid the teacher in locating references for further study in those areas in which he feels least competent.

This book represents the cooperative efforts of fourteen persons, most of whom wrote only one chapter in his own field of speciali-

zation. At the time the book was planned all of us were actively involved in teacher education at the University of Illinois. Before beginning the writing, we met together several times to define our objectives and the audience to be served by our book, to outline content, and to discuss our perceptions of the elementary school's primary functions and of good teaching. Chapter 1 presents our view of what constitutes good teaching. It also discusses the extent to which a teacher's attitudes influence his relationships with his pupils, how the teacher may involve pupils in planning their work, how the teacher may enlist pupils' assistance in teaching, and the conditions which facilitate learning.

Chapter 2 explains how the philosophy of teaching described in Chapter 1 can be applied in solving the discipline problems which often worry the beginning teacher: (1) What are the goals of discipline? (2) What rules are needed? (3) How can the teacher involve pupils in defining guides for their behavior? (4) How can the teacher get pupils to accept and to help enforce the rules? (5) How can the teacher obtain the information and assistance he needs to diagnose and treat his discipline cases? (6) What assistance may the teacher expect from the principal in handling discipline cases?

Chapters 3 and 4 are devoted to child study techniques. Throughout the book we emphasize our conviction that the teacher should be interested in each pupil as a person; try to appraise each pupil's interests, abilities, and aptitudes; plan educational experiences which challenge each; be competent in diagnosing learning problems; and be concerned about the pupil's emotional adjustment as well as his academic growth. Consequently, we concluded that we were obligated to provide the beginning teacher with child-study techniques which he could use in child guidance as well as in teaching specific subject matter.

With varying degrees of freedom every teacher determines what should be taught, when it should be taught, how it should be taught, and who should be expected to learn it. Prior to teaching a lesson, the teacher selects teaching materials such as textbooks, supplementary references, and audio-visual aids, and plans worthwhile class activities. This means that the teacher must have some sound basis for making curriculum decisions and selecting teaching materials. Chapter 5 presents information to guide these decisions.

Chapter 6, "Use of the Textbook," is closely related to Chapter 5. Though elementary-school methods textbooks often criticize the teacher for his slavish use of the textbook, few have attempted to make a critical analysis of its place in the elementary schools of the United States. This is precisely what Chapter 6 does.

Chapters 7 through 17 are concerned with the teacher's problems in teaching the various school subjects. Though we focus attention on the pupil and his personal needs, we also recognize the importance of teaching subject matter. However, we believe that meaningful learning goes beyond memorization. We believe that the teacher must teach his pupils to criticize, evaluate, and apply information in solving problems which are meaningful to them. In other words, we believe that teachers must teach even young children to think—to apply the scientific method in solving their everyday academic and personal problems.

We believe that our perceptions of best practices can be applied most efficiently in a self-contained classroom for which consultants, including the building principal, are available to aid the teacher when he recognizes the need for professional assistance and to stimulate a teacher's interest in improving his teaching practices. However, our suggestions for coping with teaching problems in Chapters 7 through 17 can be used effectively by teachers who work in other organizational structures. Wherever teachers deal with these content areas they will face most, and probably all, of the problems with which we have concerned ourselves.

The last three chapters give special attention to individual differences among pupils. Chapter 18 discusses techniques for identifying and educating exceptional children. Chapter 19 focuses attention on the individual pupil and his problems: the elementary teacher's guidance services, the specialist's guidance services, techniques for organizing the staff's efforts to improve guidance services, and suggestions for introducing a systematic guidance program. Finally, Chapter 20 approaches the problem of helping the pupil through working with his parents.

But can the teacher do all these things? Of course, he is very busy, but we do not mean to suggest that he is ringmaster for a twenty-ring circus. Sometimes he is able to do several of these things at once. For example, he may use material in a health book to teach

reading, and while he is doing that he may observe a pupil's behavior. He also may develop a unit which involves the content from several subjects. Today few, if any teachers, try to teach all these subjects as separate items every day. In any case, there are a number of different ways in which teachers schedule these various activities. Beginning teachers usually learn about these in courses in curriculum and classroom management before doing their student teaching.

Most teachers face another, and perhaps more difficult, time-management problem. Unless they are careful they will find that the routine administration and clerical tasks overwhelm them. If, for example, they spend too much time grading papers, they will not reap the satisfaction which comes from seeing pupils improve as a result of individual instruction.

The fact of the matter is that teaching is hard work, and perhaps good teachers work harder than most people realize. Teaching also is more interesting and stimulating than many believe it to be. From watching and helping children increase their understanding of themselves and their abilities, broaden their knowledge, improve their skills for self-education, and strengthen their desire to learn, teachers achieve genuine personal satisfaction.

Learner-Centered Teaching

THE TEACHER'S ATTITUDE toward himself, his attitudes toward others, and what he wants from life determine for the most part how he works with his pupils. If, for example, a teacher decides to become a teacher because he wants to dominate and to manipulate others but doubts his ability to dominate adults, this will reflect itself in the way he works with children. Frequently, the teacher is not fully aware of these motivations himself; consequently, he may not realize the extent to which he manipulates his pupils to meet his own needs. In fact, most such teachers build a rationalization which justifies their behavior.

Other teachers believe that they know what is best for all children and that any effort to adapt instruction to the pupils' interests, needs, or academic backgrounds represents a failure to protect society's best interests (though for some this too is a rationalization of their emotional needs). There are three possible reasons for this view: (1) they do not know that a child may be hurt by repeated failures, that repeating a grade often fails to improve significantly a child's score on achievement tests, and that retarded children may have a bad influence on their younger classmates; (2) they understand the

consequences of enforcing rigid standards and of not providing challenging work for the gifted children but they are either unwilling or unable to provide the special individual assistance required; and (3) they do not believe in free public education for all American youth—they want to encourage the slow learners to leave school.

On the other hand, there are many good elementary-school teachers who believe that they know what is best for their pupils and that their pupils are too immature to help them formulate classroom regulations and plan worthwhile learning activities. These teachers tell their pupils how they expect them to behave and what they may expect from their teacher, present information to the class, plan demonstrations (and either do them or arrange for pupils to do them in accordance with the teacher's plan), ask questions, judge the pupils' contributions, answer the pupils' questions, and evaluate pupils' growth. Though they reserve the center of the stage for themselves (and therefore we shall call them teacher-centered), they are interested in doing what is best for their pupils.

In contrast to this way of teaching, the learner-centered teacher respects his pupils' judgment, encourages them to help define classroom regulations, seeks their assistance in planning school work, encourages them to participate in the teaching activities, and teaches them to take progressively greater responsibility for their own behavior. He assumes the role of a democratic leader in the classroom.

In this chapter we shall begin by considering what is meant by this conception of the teacher as a democratic leader in the classroom, and what are some of the goals he should seek and dangers he should avoid. One of the important goals—perhaps the most important—is the fullest effective participation of his pupils on both sides of the teaching-learning process, and we will next consider the most complete development of this pupil-participation—the use of pupil assistance.

There are, however, other factors beside the democratic leadership of the teacher and pupil-participation which facilitate learning, and we will go on to discuss what these other factors are. We will divide them into factors which occur within the physical setting and within the pupil, and those which are the result of the teacher's daily classroom activities.

Democratic Leadership in the Classroom

Within this accepting, permissive atmosphere children feel free to say what they think. They realize that their ideas and opinions are respected and that the teacher can accept opinions which are different from his own. Children can afford to be what they really are. They discover also that sometime or other everyone faces problems which he cannot solve by himself. Thus, they feel free to seek help from classmates as well as from the teacher. Although they move about the room and talk with each other more freely, they tend to waste less time than they do in teacher-centered classrooms because they understand what they are expected to do, they realize why they should do it, and, having helped to define the limits and to plan the work, more of them want to do it.¹ Furthermore, pupils soon learn that unnecessary confusion interferes with the achievement of their goals and that it may reflect on their own maturity and embarrass the teacher in his relationships with his colleagues. Within this wholesome climate most pupils are motivated to help each other meet their responsibilities rather than to challenge the teacher as an authority figure. Thus, maintaining good working conditions puts less strain on both the teacher and the pupils.

Though pupils can participate in making decisions only with reference to those policies and procedures about which the teacher is free to make decisions, the teacher may permit pupils to discuss other topics, obtain their ideas for improving policies and procedures, and forward them to the appropriate person or group. Of course, the extent to which the last step is encouraged by the administration's attitude will vary from school to school. Even those administrators who are genuinely proud of the democratic leadership provided by a learner-centered teacher may have difficulty accepting pupils' suggestions.

If the teacher is to provide effective democratic leadership, he obviously must know and understand the school's policies and procedures. He must understand what he and his pupils are expected to do and be cognizant of the limits within which he is free to make

¹ Discipline is discussed more fully in Chapter 2.

decisions. The teacher also has responsibility for communicating these understandings to his pupils. Even when the school has policies and procedures which pupils believe are unsound, they must use them as guides for their behavior until changes are made.

The teacher's personal needs and values must also be taken into account. If, for example, the teacher believes that a given problem has only one acceptable solution, he does not solicit pupils' assistance in solving it. Pupils do not like being asked to "rubber stamp" the teacher's solutions; in fact, such behavior tends to make them question his sincerity on asking for help. And so he requests his pupils' assistance in solving only those problems upon which he can accept their decisions. Though he too has a voice in making these decisions, the teacher must prove to the pupils, by his daily behavior, that he takes their recommendations seriously and that they can disagree with him without fear of reprisal.

Whenever the teacher confronts a problem on which he wishes to have the pupils' judgment, he presents the issue to the pupils and helps them clarify any ambiguous elements in the statement of the problem; then he helps them obtain relevant information, helps them define alternative solutions, and encourages them to select one of them. In addition he *encourages them to suggest problems* for co-operative study. During this process the teacher makes it as easy as possible for everyone to contribute. Otherwise, good ideas may be lost and some pupils will miss an opportunity to learn how to participate in solving problems which affect their class.

When children become accustomed to working within this permissive atmosphere, they often suggest topics for study as well as guides for classroom behavior. Sometimes they suggest topics or regulations which create problems for the teacher. For example, they may decide to study a topic in science for which they lack the requisite knowledge or for which the school lacks adequate references and equipment. What can the teacher do in such a case? If he realizes what the situation is before the pupils make the decisions, he is obligated to present the facts of the case and to suggest related topics for which the pupils are prepared and the school is equipped. If he discovers what the situation is after a decision has been made, he must present the facts and ask the pupils either to substitute another topic or to postpone its study until they are prepared and adequate

materials have been obtained. When, however, the decision involves something less clear cut, such as behavior within the classroom, the situation is different. Sometimes when children vote against the teacher's view on a proposal more than the merits of issue are involved; it may be important for them to test whether the teacher is really sincere about giving them a voice in the matter. If the teacher then fails to make an honest effort to make the regulation work, it will reflect on his sincerity about giving pupils real choices. He must therefore not request a review of the decision until the proposal has been given a fair trial. When he feels that he must request such a review, he neither scolds the pupils nor apologizes for failure; he frankly presents the issues involved and requests the pupils either to help him formulate a new regulation or to suggest ways of making the old one work.

By observing the teacher's behavior children learn to help create a permissive relationship within which they can contribute worthwhile ideas about the study of subject matter as well as the problems of classroom management. They learn how to help a classmate recognize when he has something to contribute, explain and clarify his ideas for others, to defend them if necessary, and to accept criticism from his fellows. At the same time each learns how to present, clarify, and defend his own ideas. *To create this permissive atmosphere, the teacher must be genuinely interested in his pupils and be willing and able to help them learn from each other, from him, and from independent study.*

During classroom discussions he listens attentively to the speaker; he also observes the rest of the pupils—not merely to see whether they are misbehaving, but to notice how they are responding to the speaker and to help them get their questions and ideas before the class. He also listens so that he may learn from his pupils. On the other hand, his own rich background enables him to contribute whenever he thinks it would be helpful. Of course, he expects his contributions to receive the same careful scrutiny that the pupils' contributions receive.

The pupils soon realize that when the teacher opens a discussion by asking "What questions occurred to you while studying about ——?" he really wants to know how he can help them—no matter how simple the question is. Pupils are given the first chance to answer

each question. When a question has been adequately answered they turn to another one. If no one answers it adequately the teacher pulls together the relevant facts contributed by the pupils and answers the question himself. When he suspects that a point about which no one has asked questions may not be understood, he asks questions or uses a sample problem to determine whether they understand the material.

On some days pupils use most of the work period for a project or lesson on class discussion; on other days they have few questions so they use most of the time for independent study. While the pupils are studying, the teacher and his pupil helpers provide individual help as it is needed.

Usually several different kinds of learning activities are going on at any one time. Frequently these are carried on in work groups which have been organized for special projects.

To fully appreciate how differently discussions are conducted in a teacher-centered classroom we should compare them with those in a teacher-centered classroom—even one where the teacher is conscientious and highly regarded by his colleagues. First, we would note that pupils are rarely encouraged to work together on special projects. Except for reading and arithmetic instruction, the class is not divided into subgroups. Consequently, most discussions involve the entire class. In general, the teacher asks the questions, listens to the pupils' answers, judges their answers, and, if satisfied with the answer, asks another question. Usually when he entertains pupils' questions he answers them himself.

Pupil Participation in Teaching

Most elementary-school teachers believe that their pupils learn much from their classmates. They recognize that even the most successful teachers occasionally have difficulty communicating with their pupils and that frequently some pupils will be able to explain a concept or demonstrate a skill better than the teacher can. At the same time they often disagree on the best way to use pupils' assistance in teaching.

Teacher-centered teachers usually believe that pupils learn most efficiently from each other when the teacher leads group discussions and supervises pupils' demonstrations. They feel that encouraging pupils to help each other with their assignments has a number of drawbacks: too frequently the poor pupil merely copies another's work without learning how to do it; pupil assistants frequently give incorrect information; pupils often waste time when working together; and unnecessary disciplinary problems eventually arise. Some of these teachers also feel that the use of pupil assistants makes the less able pupils become more rather than less dependent.

Learner-centered teachers, on the other hand, have found that these negative results occur most frequently when the teacher tries but fails to prevent pupils from helping each other. They also hold that teachers may avoid the negative consequences of pupils helping each other by helping pupils to define what the teacher may expect from the pupils and what they may expect from each other and from their teacher, and by training pupil assistants for their responsibilities.

Teaching pupil assistants how to help classmates is not easy, but it can be done by demonstrating the difference between doing the work for a child and showing him how to do it. Usually a teacher can obtain the agreement of a pupil who needs help to participate in the demonstration. (He should, of course, select a pupil who would not be embarrassed by his role. Often, this can be done best while the teacher is introducing new work and the pupils realize that many need assistance.) There are five important aspects of such demonstrations for the one who is doing the teaching: (1) helping the pupil go as far as he can on his own; (2) helping the pupil realize just where it is that he is having trouble;² (3) verbalizing the mental processes that the pupil must go through; (4) helping the pupil summarize the steps involved; and (5) pointing out how these steps may be used in solving similar problems.

Some learner-centered teachers encourage pupils to help each other, but do not set up formal arrangements for using pupil assistants. Others use some variation of the plans described below. In both

² It should be noted that pupils are encouraged to attempt new work on their own with the hope that they will discover the general principles for themselves, as suggested in Chapter 11. They also are encouraged to help diagnose their own learning problems, as suggested in Chapter 4.

cases pupils must be taught to differentiate between helping a classmate and doing the work for him.

Introducing the Use of Pupil Assistants

If the teacher decides to make formal arrangements for using pupil assistants he should describe the class organization to his pupils and explain through the use of examples how selected pupils could help him provide the additional individual assistance that most pupils need at some time or other. From the very first, the teacher should solicit the pupils' assistance in defining the teacher's role, the pupil assistants' role, and the role of those who profit from assistants' help. Whenever the use of pupil assistants changes the teaching methods substantially, it is usually easier for both the teacher and pupils to introduce it at the beginning of a school term than to wait until working relationships have been established.

Selecting Assistants

Who selects the assistants? Obviously, this decision must vary with the maturity of the pupils. Even first graders may be taught to help their classmates with their school work, but usually they are quite willing to accept the teacher's choice of assistants. By the time they reach the fourth grade, pupils can write their preferences in response to sociometric test questions.¹ What is more, they enjoy being consulted on the choice of assistants. For fifth and sixth graders, pupil participation in choice of assistants becomes important; failure to consider the pupils' choice at this level may result in the assistants being regarded as mere teacher's pets.

Pupils should be encouraged to consider two characteristics in selecting assistants: (1) their knowledge of the subject matter and special skills, or both, and (2) their acceptability as persons to their classmates. Thus, different pupil assistants may be selected to help their classmates with arithmetic, art, language arts, music, science, and social studies. For example, even fourth-grade assistants have been taught to help classmates to select topics for stories, to find

¹ See Chapter 3, page 57.

materials, to polish up the grammar and spelling in their stories, and to clarify what they have tried to express.

But will even the upper-grade pupils know each other well enough to answer such sociometric test questions? Frequently, they will. In any case this issue should be discussed with the pupils and if they feel uncertain about their choices, they should be told to make temporary choices and then select regular assistants later when they know more about their classmates.

Responsibilities of Pupil Assistants

Earlier we said that the teacher should enlist the pupils' aid in defining the assistants' teaching responsibilities. Obviously, they should not be used merely to reduce the teacher's routine paper work. If, however, correcting written work is integrated with remedial instruction, their time may be used very effectively for this purpose. When, for example, an assistant finishes correcting a paper, he should sit down with his classmate to help him discover the errors in his work and do over again that part of the assignment in which the errors were made—something a teacher rarely has time to do when he assumes the entire responsibility for instruction.

What else can assistants do? They can help the teacher provide whatever individual assistance that is needed; they also may serve as consultants for special committees and study groups. Most teachers are especially grateful for the help they provide for the rest of the class while the teacher works with a part of it, such as a reading group.

Whether or not the pupil assistant completes his assignments ahead of his classmates and has them corrected by the teacher is for the teacher to decide. Usually, the pupil assistants can be relied upon to do their work and check its accuracy without the teacher's assistance. In any case, they must have completed the work in order for them to be prepared to help their classmates; pupils recognize this. Why should a pupil want to be an assistant? From the assistant's point of view, being chosen by his peers is sufficient recognition to justify participation. He also likes to be recognized for his own special competencies. Moreover, this recognition tends to strengthen his

interest in the subject for which he is chosen and thereby encourages him to pursue further study in that area.

What benefits are there for the assistant? How can it be justified in terms of the assistant's personal growth? He learns to appreciate his special competencies and to use them in aiding his peers. In order for him to help another, he must examine what he knows, integrate his knowledge, and adapt his explanation to the learner—a task which requires much more insight and more thorough mastery of the concepts and skills than is usually required to complete assignments and pass examinations. Finally, the time he spends giving the necessary remedial instruction to his classmates provides the teacher with enough additional free time for him to give some special attention to the assistants—to provide them with work which challenges them and to help them find the materials they need to pursue old interests and develop new ones. This may be done on an individual basis or it may be done by setting aside some time for the assistants to work together as a group, by themselves where they can talk about their special projects and help each other with the learning problems which they have met in their independent study. Other talented pupils in that field who were not selected as assistants may be encouraged to work with assistants at such times. For example, pupil assistants in science often discuss their outside reading and their experiments, do experiments in school, trade specimens, and exchange books. Pupils thereby discover new interests, strengthen old ones, and develop greater resources for independent study and self-education. Usually such experiences also motivate bright pupils to improve the over-all quality of their work.

Conditions which Facilitate Learning

So far we have discussed the influence of the teacher's attitudes on teacher-pupil relationships and the learner-centered teacher's techniques for involving pupils in classroom planning, some of his classroom methods, and his use of pupil assistants. We believe that these relationships facilitate learning. We also believe that there are other important factors which every teacher must consider in facilitating

learning. Knowledge of these factors helps teachers understand why on some occasions children learn a lot in a short time and why on other occasions they work equally hard for longer periods and learn very little.

Most authorities agree that good morale facilitates learning. From his review of the research, Wrightstone concluded that the teacher's personality is an important factor in determining pupil morale and classroom climate:

The findings about the effect of teacher personality on the climate of the classroom show that the teacher has an opportunity to organize his classroom and teaching procedures in such a way as to provide conditions and experiences that will lead to healthful personal and group growth or morale for pupils. The teacher's contact with the children is continuous. The teacher's personal attitudes influence the emotional or social climate of the classroom. His social adaptability determines the relationships between himself and his pupils and influences the relationships among pupils themselves.

The emotion of a warm and sympathetic teacher translates itself into a friendly spontaneous emotion of the pupil group. Thus, pupil-teacher social distance reveals the degree of warmth and interest that the teacher has for the children. In studies that have involved an analysis of pupils' comments about teachers, researchers have found that a cooperative, democratic attitude, kindness and consideration for the individual pupil, and patience were among the highest ranking traits mentioned for the teacher who had helped them most.

Studies have shown that authoritarian methods induce pupil attitudes of self-concern and of competition with others. A laissez-faire approach on the part of the teacher tends to produce a state of extreme individualism, of concern for self often bordering on anarchy. Under democratic leadership, the pupil attitudes developed are concern for the welfare of the group as a whole and for the individuals in the group, and an effective working relationship among group members.⁴

Since the teacher is such an important factor in determining whether conditions within the classroom facilitate learning, we should like to review the personal and professional competencies which govern his success with his pupils: his ability to accept himself and others (especially pupils, parents, and colleagues); his ability to communicate this acceptance of others; his ability to empathize with others;

⁴ J. Wayne Wrightstone, *Class Organization for Instruction*. Washington, D. C.: Department of Classroom Teachers, American Educational Research Association of the National Education Assoc., 1957, p. 27.

his skill in sensing pupils' difficulties and communicating a genuine desire to provide assistance; his ability to cope with his own emotional problems; his mastery of the subject matter he teaches; his ability to communicate his ideas and feelings to others; his ability to accept and profit from criticism, and his interest in improving his teaching methods.

The successful teacher understands his pupils and is interested in them as individuals; he likes and respects them, and they know it. Not only does he teach them specific subject matter, he also helps them develop new interests and strengthen old ones, understand and accept themselves and others, and become more competent in working with classmates. He knows that having children memorize facts is not sufficient; he realizes that he must teach pupils how to define problems, obtain the facts, interpret them, and use them in solving problems. He is aware that what a child learns is dependent not only on his learning potentialities, but also on his needs, his community and family background, and his educational experience.

Other conditions that facilitate learning fall into three general categories: (1) factors within the physical setting; (2) factors within the pupil; and (3) the teacher's daily classroom activities.

We have already made the point that a wholesome emotional climate—such as one finds in a learner-centered classroom—contributes to effective learning. Perhaps we should add that though pupils should feel free to seek aid from classmates when they need it, pupils also should respect an individual's right to work alone in pursuing his own special interests.

Working relationships and job assignments should be clearly defined. Best results are obtained when pupils help make up the classroom regulations and plan work which is meaningful to them. It is also important that these plans be sufficiently flexible to allow pupils to pursue special interests.

School work must be adapted to individual differences. Ideally, every child should be challenged by every assignment yet no child should be assigned work which he is unable to do.

Available experimental evidence on instructional provisions for meeting individual differences at the elementary-school level favors groups within the class. The teacher organizes these groups for various purposes such as direct instruction of specific academic skills, satisfaction of com-

mon pupil interests, and social purposes. These groups are flexible; the personnel and the size of the group vary according to the specific purpose at a particular time.⁵

Adequate teaching materials should be purchased, arranged, and stored to enable each pupil to complete efficiently his assigned work and work on his special projects. They should be selected to make allowances for the various learning levels among the pupils.

The physical conditions within the classrooms must be conducive to learning: adequate light; comfortable temperature; and a room decorated in good taste and furnished with comfortable furniture that lends itself to arrangement for varied group activities.

Conditions within the child also determine how efficiently he learns:

Recently, for example, five of us visited an outstanding fifth-grade teacher's classroom and at a given signal each of us selected a pupil and asked him what he was thinking about at that instant (the signal was given at 2:30 P.M., after about twenty minutes of an interesting discussion on a social studies lesson). Linda was thinking about what she and Mary Ann would do that night when she would be an over-night guest at Mary Ann's house; Jim had a stomach-ache and was wondering whether he should request permission to go home early; Tom was thinking about the quarrel which his parents had during lunch hour; the class discussion reminded Alberta of her vacation trip, and she was waiting for a chance to tell the class about it; and Marjorie was giving her undivided attention to the class discussion.

Though a child must give his full attention to a discussion to profit from it and contribute to it most effectively, we should not conclude that three of these pupils were not profiting from the class discussion when we asked what they were thinking. Perhaps they were learning something even then, but obviously they would have profited more had they been able to tune out the distracting stimuli.

A child learns most efficiently when he wants to learn, knows what he is expected to do, believes that he has the ability to do it, and recognizes some value in doing it. The child's general attitude toward himself, his previous school experiences, and especially his memory of success or failure in doing similar work, will determine his decision that he can or cannot do the work. In the same way, his

⁵ *Ibid.*, p. 27

interest in doing the work will be determined by the attitudes which he has learned both in and outside school.

There are several other characteristics of the child who learns efficiently:

1. He is relatively free from disabling handicaps and distracting pain.
2. He is relatively free from worries and anxieties.
3. He has a reasonably good understanding of his needs and knows how to satisfy them reasonably well.
4. He feels that there is someone in the school to whom he can turn for help when he is faced with a problem which he cannot solve by himself.
5. He has sufficient energy to do his school work.
6. He possesses the ability, the learning skills, and the related knowledge to do the required work.
7. He has learned to appraise his own progress toward his goals, and when he is unable to do this, he knows that his teacher will help him appraise his progress, diagnose his learning problems, and correct the deficiencies.
8. He is given an opportunity to use his knowledge.
9. His success in applying the knowledge and skills gives him personal satisfactions and attracts praise. This reinforces the learning and improves his chances of making the correct response the next time he is called upon to use the knowledge or skill.

Child-study techniques which the teacher can use to determine whether the conditions within the child will facilitate learning are presented in Chapters 3 and 4 and further discussed in Chapter 19. However, even good techniques are not sufficient to identify the forces within the child which interfere with efficient learning. Solving this professional problem, and the related one of teaching the child to cope with the forces which interfere with learning, requires the child's wholehearted cooperation. This is most easily achieved in a permissive atmosphere where pupils help decide how they will work together, discover that they can express their feelings freely, and are convinced that the teacher will use facts about them to help them achieve success. Within this setting they soon learn to accept the

teacher's request for help when he suspects that forces within the children are diverting attention away from the assigned task. On such occasions he may, for example, interrupt a discussion or work period with the request that each write in a word or two what he was thinking about, and thus identify the forces which distract pupils' attention. He also may obtain suggestions from the pupils for controlling these distractions. Within this framework pupils recognize readily the implications for themselves of others' suggestions. Further, such occasions set the stage for the teacher to give pupils information on **work habits and study skills**.

In other words, the child's needs, interests, values, problems, and abilities all influence his readiness for learning; they also determine what he notices in any given situation and how he perceives what he has noticed. Though pupils may have equal opportunities to learn from a given situation, we know that individuals notice and remember different elements in a situation, and that they may perceive differently even those elements which they have noticed in common. The teacher must take cognizance of these differences. One thing he can do is to help pupils become more sensitive to the significant elements in the learning situation. More is said about this in the next section.

The Teaching Process

Teaching is the process of facilitating learning. Learning, in turn, is a complicated process of selecting, interpreting, and integrating which begins when a person responds to a stimulus. Sometimes action results; at other times the person merely changes either the way in which he perceives a situation or the way in which he will act in the future. Blair, Jones, and Simpson define learning as follows:

Any change of behavior which is the result of experience, and which causes people to face later situations differently may be called learning. The person not trained in psychology may conceive of learning in a narrow, academic sense. To such a person learning means acquiring skill in reading, spelling, or a trade. Actually it is much more! Children learn cultural values; they learn appropriate sex roles; they learn to love and to

hate and to fear and to be self confident; they learn wants and interests and character and personality traits.⁶

Although Wiles defines learning very similarly, he introduces some new elements:

We live, and through the process of living we learn. Each of us, as he lives, selects from his environment the things with which he will interact. Some of the things will be words of other people; some will be the behavior of other people; some will be physical features of the environment. As we interact with the features of the environment which we select, we change. The process of change in a person through interaction is learning.⁷

Therefore, in addition to distractions which cause inattentiveness and to physical conditions such as poor vision and poor hearing, there may be other factors to account for the fact that children who participate in the same class discussions may learn very different things. Not only does each individual's background influence his interpretation of experience, but each pupil's interests, values, and previous experiences in similar situations also determine whether he will notice specific elements in the situation. Usually, with the help of his teacher and classmates, a child can be taught to observe more of the relevant elements in a situation.

What else can the teacher do to facilitate the learning of specific knowledge and the mastery of useful skills?

1. He can know the conditions which contribute to efficient learning and enlist his pupils' assistance in satisfying these conditions.
2. He can enlist his pupils assistance in planning units of work which are meaningful to them. Obviously, this requires a knowledge of the subject matter, a knowledge of the pupils' backgrounds, and an understanding of the way in which the unit fits into the entire school curriculum.
3. Not only can the teacher and his pupils plan each unit with care, but at the end of every discussion period they can plan

⁶ G. M. Blair, R. S. Jones, and R. H. Simpson, *Educational Psychology*. New York: The Macmillan Company. Copyright 1954. By permission.

⁷ Kimball Wiles, *Teaching for Better Schools*. New York: Prentice Hall Inc., 1952, p. 14.

for the next discussion period; they should decide what they will do and how they may prepare to do it. While the teacher is preparing himself for the discussion of the next topics, he should try to recall which concepts and skills were found to be difficult by previous classes and to plan appropriate explanations and demonstrations to meet the needs of the situation.

4. Even when the teacher finds himself in a situation where he has little opportunity to involve pupils in planning units, he can enlist their assistance in planning demonstrations and field trips, in locating interesting teaching materials, and in defining working relationships within the classroom. The teacher must at least try to make the work interesting to his pupils. To accomplish this he must believe that the concepts and skills which he is attempting to teach are worth learning and assign to individuals only that work which each can do.
5. He can accept the fact that pupils differ—that each has special needs, interests, values, abilities, and aptitudes—and that they reveal their desire for help in different ways.
6. He can adapt his assignments to his pupils' various maturity levels, their ability levels, and their knowledge and skills. If he is really concerned about his pupils learning to accept themselves, then he will take cognizance of the fact that children learn to accept themselves by discovering what they can do well, by accepting the weaknesses which they cannot correct with a reasonable expenditure of time and effort, and by discovering and correcting the weaknesses that are remediable.
7. He can secure materials and equipment to enable pupils to do their work efficiently and to pursue their special interests. If he is really concerned about teaching his pupils to be independent learners, he also will assume responsibility for teaching them to use special equipment, to locate their own materials for special projects, and to use school and community resources such as libraries and museums.
8. He can be conscious of the fact that he can accomplish desirable changes in pupil behavior which carry over to new

situations (transfer of training) only when he teaches his pupils how to identify the general principles which are used to solve specific problems.

9. He can inform pupils of their progress and teach them how to appraise their own progress. He should be interested in each individual's progress, convey this interest to each, and provide individual assistance whenever it is needed. "One of the teacher's hardest decisions is being critical enough to remove errors, and being lenient enough to give pupil encouragement and a chance to develop a style of work that fits him."⁸
10. He can become proficient at identifying, diagnosing, and treating the problems which pupils confront in doing their work. He also can teach pupils to discriminate between concepts which they understand and can use in solving problems and those which they understand only vaguely.

Frequently, beginning teachers have difficulty differentiating between the child who is idle because he does not know how to do the work and any one of three other types of problem children, each of whom knows how to do the work but wastes school time and often becomes a discipline problem: (1) the pupil who does not see any reason for doing the work; (2) the pupil who does not know how to plan use of his time; (3) and the pupil who has completed the work and does not know what to do with his free time.

Often the bright child who completes his work quickly can be shown how to pursue projects of special interest to him and be trained to help the child who does not know how to do his work. Thus, more of the teacher's time can be devoted to helping the first type see reasons for doing the work and the second type learn how to use his time more efficiently.

While conducting discussions, the teacher should try to identify learning problems. He should encourage pupils to ask questions whenever they feel they need help, and help them answer each other's questions. It is also quite appropriate for him to ask questions to determine whether pupils understand those concepts, principles,

⁸ Lee J. Cronbach, *Educational Psychology*. New York. Harcourt, Brace, and Company, 1954, p. 65.

and skills which have troubled other classes, and the same class in earlier sessions. As pupils answer each other's questions, the teacher can discover the degree to which pupils who believe they have mastered the material, really have mastered it. Furthermore, answering questions helps the pupils who answer the questions clarify what they thought they understood. As they explain a principle, clarify a concept, or explain and demonstrate a skill, they come to understand it better themselves.

The teacher should remember that learning is an individual matter. Teachers can introduce ideas to pupils, help pupils identify the stumbling blocks which prevent learning, and aid them in removing the barriers, but they can neither learn for the pupils nor force them to learn.

By using the teaching resources found among the pupils, a learner-centered teacher can provide more remedial work for the slow learners and devote more time and energy to challenging the gifted children. He also has more opportunity to help pupils to discover their own strengths and weaknesses, to understand and accept themselves, to understand and accept others, to learn to work with others, and to initiate and carry out independent learning activities.

Working under such conditions, elementary-school pupils have participated successfully in formulating guides for their own behavior in the classroom and on the playground and have helped to plan units of work, field trips, social activities, and community activities. They also have learned how to help each other with their work, to help evaluate their own progress and their instructional activities, and to assume progressively greater responsibility for helping to maintain good working conditions within the classroom.

DISCUSSION QUESTIONS

1. How may the teacher decide whether he should seek pupils' assistance in solving a problem or should handle it himself?
2. How may the teacher determine whether he has been successful in creating a permissive and accepting classroom atmosphere?
3. Why might pupils behave differently in learner-centered classroom than in a teacher-centered one?

4. Why do pupils assume more responsibility for their own behavior in learner-centered classrooms than in teacher-centered ones?
5. If a teacher-centered teacher decided that he wanted to become a learner-centered one, what problems would he confront?
6. For what reasons may a teacher have difficulty communicating with his pupils?
7. What should a teacher expect from pupil assistants?
8. What should pupil assistants expect from the teacher?
9. What can the teacher accomplish with aid of assistants that he could not do by himself?
10. Why is it that pupil assistants often discover pupils with learning problems before the teacher does?
11. If a child has a good home, what difference does it make whether he feels there is someone in the school to whom he can turn for help when he is faced with a problem which he cannot solve?
12. Why is it so important for every child to be challenged?
13. When you are a member of a class, during what proportion of the time do you give your undivided attention to the class discussion?
14. How can a teacher tell when a pupil needs assistance with his school work?
15. What may a teacher do to aid transfer of training?
16. How would you expect to change pupil behavior as a consequence of your teaching?

SUGGESTED READINGS

1. Blair, G. M., Jones, R. S., and Simpson, R. H., *Educational Psychology*. New York: The Macmillan Company, 1954. Elementary school teachers will find that the following chapters will help them apply psychological principles in the classroom: 5. "Orientation to Learning," 6. "Readiness for Learning," 11. "The Social Psychology of Teaching and Learning," and 12. "Discovering and Overcoming Special Difficulties in Learning."
2. *Creating a Good Environment for Learning*. Washington, D. C.: Association for Supervisors and Curriculum Development, 1954. The title of this book describes it very well. It discusses the teacher's role in creating a good environment for learning and explains why teachers assume different roles. It also describes other important forces which influence learning.
3. Cronbach, Lee J., *Educational Psychology*. New York: Harcourt, Brace and Company, 1954. This is another excellent book for teachers which explains how to apply psychological principles in

teaching. We found three chapters to be especially useful for our purposes here: Chapter 2, "What Teachers are Trying to Accomplish," Chapter 3, "An Introduction to the Learning Process," and Chapter 8, "Adapting Schooling to Individual Differences." These chapters provide helpful answers with reference to such questions as: (1) What are the social goals of the school? (2) What are the key elements which influence behavior? (3) What individual differences must be considered by a teacher in planning her work?

4. Jersild, A. T., "Understanding Others Through Facing Ourselves," *Childhood Education*, 30:410-414 (May 1954). In this paper, Jersild explains why self-understanding is especially important to a teacher. He also explains how a teacher's attitudes toward himself influences his behavior in the classroom.
5. Otto, Henry J., *Principles of Elementary Education*. New York: Rinehart and Company, Inc., 1949. In addition to presenting principles of elementary education, this book explains how to apply psychological knowledge in understanding children and in working with them. Perhaps the most valuable chapter for our present study is Chapter 13, "Working With Children."
6. Overstreet, B. W., "Building the Self-Image," *National Education Association Journal*, 41:14-15 (January 1952). In this paper the author describes the development of the self-image and the factors which contribute to self-acceptance.
7. Stendler, Celia B., *Teaching in the Elementary Schools*. New York: Harcourt, Brace and Co., 1958. This new and stimulating book applies the principles of learning to teaching all the various school subjects. Perhaps Chapter 1, "The Task of the Elementary School," and Chapter 2, "A Basic Theory of Learning," would be most useful here.
8. Wiles, Kimball, *Teaching for Better Schools*. New York: Prentice-Hall, Inc., 1952. Those who are interested in becoming learner-centered teachers should read the entire book. For present purposes, the first four chapters are very helpful: 1, "What is An Efficient Teaching-Learning Situation," 2, "What is the Role of the Teacher?" 3, "What Quality of Human Relationships Do We Seek?" and 4, "How Can We Improve Human Relations in the Class?"
9. Wrightstone, J. Wayne, *Class Organization for Instruction*. Washington, D. C.: Department of Classroom Teachers, American Educational Research Association of the National Association, 1957. The author drew from the research on classroom organization for the items which promised to be most useful to the classroom teacher and organized these ideas into well-written pamphlet. He answers such questions as: (1) "What are the advantages and disadvantages of ability grouping?" and (2) "What are the characteristics of an effective class organization?"

SUGGESTED FILMS

As you watch the films recommended at end of various chapters try to discover the answers to the questions listed under each.

1. *Elementary School Children: Part I—"Each Child is Different" (17 minutes)*. New York: McGraw-Hill Book Company, 1954. This film gives a brief personal history of 5 fifth-grade pupils whom the teacher meets on the first day of school.
 - 1.1 Why is it important for the teacher to know each of his pupils? If you were the teacher, how would you use the data presented in the film to work with each of these five pupils differently?
 - 1.2 What could have been done earlier to help each of these pupils?
 - 1.3 What pupil behavior suggested the need for special help prior to grade five?
2. *Individual Differences (23 minutes)*. New York: Produced by Audio Productions for McGraw-Hill Book Company, 1950. This film presents the case study of a shy child who is different from his classmates and his older brother.
 - 2.1 What was the teacher able to do to help this shy child?

Discipline in the Learner-Centered Classroom

Most adult human beings are uncomfortable if children, whether their own or those of others, are allowed to grow like Topsy. They are likely to be uncomfortable, first and most directly, because of the inconsiderate, disorderly, and often destructive and dangerous things which undisciplined children do. But adults are made perhaps even more uneasy by the prospect of what would happen if all children were allowed to remain unmannerly and unruly. Society cannot be made up of adults who know no restraints, no control, no discipline.¹

THOUGH OUR WAY OF LIFE encourages each individual to develop his own code of ethics and to make independent judgments, it must require—for its own survival—that its citizens also respect the rights of others and that they help maintain law and order. Very early in life the child discovers that he must take cognizance of others' needs as well as his own. He soon learns that even those who love him most cannot tolerate certain behavior. From his parents, and others whose

¹ O. H. Mowrer, "Discipline and Mental Health," *Harvard Educational Review*, 17-284-296 (October 1947), p. 286.

acceptance, love, and recognition he seeks, he learns to honor certain behavior, to reject other behavior, and to evaluate his own behavior in terms of these criteria.

The child who has understanding parents and teachers learns that he does not have to be perfect—that he can make mistakes without being labeled as basically bad—and that he does not have to be good in everything to be a good person. His parents let him know that they believe he usually wants to do the right thing even though occasionally he may fail. Finally, they help him either to become the kind of person he wants to be or to define new goals which are more appropriate for him. In other words, they help him achieve mental health by helping him learn to accept himself and to cope with the social forces around him.

On the other hand, many well-meaning adults are so concerned about how they want their child to behave and so ready to criticize his failures that they do not understand him. Baruch expresses their attitude very well: "We focus so hard and furiously on what we want and expect him to do that we lose sight entirely of what he is like. We never get to know him. And we ignore his requirements. We fail to nourish his needs."²

Some children adapt to the classroom situation better than others.

Through experiences in their homes and neighborhoods some pupils learn to value and to do well the same activities which also won recognition for their teacher when he was a child in school. These children adjust easily and tend to like school. Other pupils learn to value and to do well activities which are rejected by the teacher. They tend to get into trouble and not to like school. Still other pupils learn to value and to do well activities which the teacher never even notices. Some of these pupils find the other pupils value their work and thus their need for recognition is at least partially met. Others in this last group prefer to get into trouble rather than be ignored and left out by pupils and the teacher.³

Though the teacher should expect pupils to conform to the rules which are drawn up by the pupils with his assistance, he also should

² Dorothy W. Baruch, *New Ways in Discipline*. New York: McGraw-Hill Book Company, 1949, p. 12.

³ Merle M. Ohlsen, *Guidance: An Introduction*. New York: Harcourt, Brace and Company, 1955, p. 39.

recognize that some pupils will need special assistance in adapting to these standards. What they are expected to do and what wins them recognition in school may be so foreign to their family and community life that they are made to feel unwanted and unappreciated by their family and friends. Even when they learn to be successful with activities that give them recognition in school, they may face new problems because these activities have low prestige value in their family and community groups. Such pupils will not do their best work and behave as their classmates and teachers wish until they are convinced that these goals are appropriate ones and helped to integrate these goals with those which they developed outside school.

From successful participation in group activities the child learns what the members expect from him and what he may expect from them. He learns to satisfy his own needs reasonably well, to serve others, to live by the rules of the group, and to help change the rules when they are no longer appropriate. Nevertheless, he may still feel some insecurity in adapting to a new group. When neither his orientation to the group nor his observation of members' behavior clarifies his role, he usually tests the limits to determine what he can get away with, or he asks questions. Of course, asking questions about his role in the group represents the more mature behavior, but, the child must be shown the advantage of this method before he will use it.

The teacher must help his pupils clarify their roles and adapt to the school situation. In addition to being sensitive to each pupil's need for assistance, he should be skilled in helping all pupils to state their questions clearly and to obtain the information requested. He also should be skilled in teaching pupils to help one another adapt to classroom conditions.

Desirable as it is for pupils to learn to conform, this is not sufficient. Children of free men also must be taught how to change the rules—to think independently and to work for those changes in the rules which they believe will improve conditions for themselves and the group in general. Perhaps children of free men need as much help in learning how to determine what is wrong with existing regulations and improve them as they do in learning how to conform to the rules which they have. Teachers should help pupils to present their ideas before the group, to examine the issues involved and define alterna-

tive solutions to the problems, to debate the merits of the various solutions, and to express their preferences on a ballot. Not only do such experiences improve the working conditions within the classroom, but they also motivate the children *to live by the rules and to help enforce them*; and they prepare children for adult responsibilities in a democratic society. Usually these goals can best be achieved under the leadership of a learner-centered teacher (see Chapter 1).

The authoritarian schoolroom, like the authoritarian home of an earlier day, has become inconsistent with the spirit of democracy. Since the second Great War we realize that the sources of the democratic spirit are to be found in the homes and the schools of the people—in the interpersonal way of life which prevails in the parent-child and the teacher-child relationships. Do not children need discipline? Yes, but discipline being a mode of government can be either autocratic or democratic in method. It can defy the laws of development. It can humanely defer to them.⁴

Establishing and Maintaining Limits

Ann Jeffery had been a very successful student teacher the previous spring. All summer she had looked forward to her new job; however, two weeks of teaching had almost completely destroyed her confidence in herself and her ability to teach. Though friendly as individuals, her fourth-grade pupils were constantly testing limits and demanding explanations for her decisions. Consequently she was depressed and thoroughly ashamed of the way she nagged at them; she worried about her behavior and punished herself mercilessly.

Fortunately for the school, and for the profession, Ann's principal stopped by her classroom on Friday afternoon. After he listened to her story, he asked whether she had ever told her pupils what they could expect from her and what she expected from them. Like many other beginning teachers Ann had failed to tell them what she expected and then nagged at them for not doing it. With her principal's help she did even better than telling her pupils what she expected—she worked out ways to involve them in defining the classroom regulations. First, she told them how she felt about nagging and how she really wanted to work with them. Then she asked

⁴ Arnold Gesell and Francis Ilg, *The Child From Five to Ten* New York: Harper & Brothers, 1946, p. 34.

them how they would like her to behave and how they thought they should behave. As she recorded these points on the chalkboard she added her own suggestions. For example, no one said anything about pupils leaving the room so she asked, "Don't you think it would be reasonable to try not to have more than one person out of the room at one time?" After they discussed the question she said, "When I have to leave the room I'd want you to behave as well as when I am here. Do we need to elect or appoint someone who will take charge or will you all help maintain order?" Soon Ann's pupils proved to her that they wanted to do the right thing and that they could help her develop a classroom atmosphere as wholesome as the one which was already established for her where she did her student teaching.

Even with well-defined limits children misbehave. A child frequently misbehaves when he believes that his teacher does not like him. Sometimes he misbehaves because he believes that a restriction is unreasonable, or at least that it does not make sense to him. Occasionally, he discovers that his friends and his teacher expect different behaviors; this makes him unhappy because he is forced to please one and disappoint the other.

When children recognize that what the teacher expects differs from what his classmates expect they need to discuss these differences and to explore openly why people expect different sorts of behavior from them. Obviously, this can be done only in a classroom in which pupils realize that they can express their true feelings without fear of reprisals. Usually such discussions result in the disappearance of these incompatible differences.

Boredom is another source of discipline problems which even carefully defined classroom regulations cannot correct. There is no substitute for interesting and varied learning activities.

Finally, children do not immediately accept and abide by even those regulations which they have helped define. It takes time for them to learn and apply their regulations in their daily behavior. Obviously Hymes⁵ was right when he concluded that youngsters do not learn good behavior immediately any more than they learn to read or spell or dance or type. Appropriate actions are hard to master.

⁵ James L. Hymes, *Behavior and Misbehavior*. New York: Prentice-Hall, 1955, p. 18.

Living by the Rules

Restrictions can be annoying and frustrating. Even good citizens are tempted to break some laws which they realize protect their best interests. Parents and teachers often are intolerant of similar behavior in children. Though they should not condone a child's mistakes, they should understand why he misbehaves and let him know that they understand why he wants to misbehave.

Furthermore, how a child feels often determines whether he can accept a restriction—even one which he has previously accepted. Sometimes a child will refuse to conform when he is troubled about something quite unrelated to the rule. Parents and teachers should realize that such behavior often suggests that the child needs love and understanding rather than punishment.

Adults' Own Problems Get in the Way

Children often have difficulty understanding the inconsistent behavior of adults. For example, many parents and teachers understand why children need to express their negative feelings and have learned to accept them; and the children in turn have come to expect the parents' and teachers' acceptance of this behavior. When children are then scolded by a parent or teacher for expressing these feelings in front of people such as their father's boss, the grandparents, or the minister, they are confused because they did not realize that these things should not be said while certain other people are present.

If the parent or teacher cannot explain immediately following the incident why he rejected the child's behavior, he should review the situation at the first opportunity, explain why he behaved as he did, and discuss better ways of meeting the problem in the future. He also should review the conditions under which such feelings may be discussed.

Adults also have their bad days and sometimes they cannot accept a child's negative feelings because of the way they feel. For example, Mr. Spence was not angry with Sammy when he complained about his homework—he spoke sharply because he was still annoyed with the principal for reprimanding him for the stand he took on the teacher welfare committee. Nevertheless, Sammy and his friends

concluded that Mr. Spence did not like what Sammy had said, and when Mr. Spence continued to avoid Sammy, they were sure that Sammy was in disgrace. Instead, Mr. Spence was ashamed of himself, and it was those feelings which Sammy interpreted as rejection. Fortunately, Mr. Spence sensed what was happening and cleared up the incident by explaining how his own negative feelings (but not their source) had got in his way and why his guilt feelings were probably being misinterpreted. In addition to straightening out the present situation, such experiences help children to interpret others' behavior and to cope with similar problems.

Obviously, the teacher should know when he tends to become annoyed with his pupils and warn them so that they can help him. For example, had Mr. Spence warned his pupils by telling them that he was annoyed about something that happened outside the classroom and that though he would try not to be cross with them, he may forget and speak sharply, they would have understood why he spoke sharply to Sammy. Furthermore, this probably would have reduced his tension and thus decreased the likelihood of his speaking to them sharply. In any case, when pupils like and respect their teacher they usually help him in such instances. They want to do the right thing and they appreciate such mature treatment.

Maintaining Limits

Even though pupils who help formulate the rules will usually help enforce them, there will be times when the teacher must assume the policeman's role in order to maintain good working conditions within the classroom. In this role he will be most effective when he is fair, consistent, considerate, and sincerely interested in helping his pupils live in accordance with clearly defined regulations which they accept. If, on the other hand, the teacher accepts the policeman's role without attempting to enlist the pupils' help, he will lose the confidence of his pupils. He should assume complete responsibility for maintaining good working conditions only until his pupils understand what is expected from them and are ready to assume the responsibilities which he may reasonably expect from them.

Furthermore, adults forget that the child needs to be reminded. Most offenders will respond favorably when either a pupil or the

teacher privately reminds him of the regulation which he is breaking. Then he can save face and accept the remark as a helpful gesture. Of course, this is true only so long as reminding is not perceived as nagging. However, it is not only the number of times that the child is spoken to that turns reminding into nagging; the speaker's attitude and the manner in which he speaks to the child is also important. For example, the comment, "Perhaps you forgot that we agreed to . . ." is more readily accepted than "You should know better than to. . ."

When none of the pupils sense that their behavior is unacceptable, the teacher should describe the problem and request their assistance in solving it. In most instances a good solution will evolve from the teacher's and pupils' cooperative efforts. If the pupils fail to cooperate in solving the problem, the teacher should try to determine why they refuse to cooperate. Usually there is a good explanation, though careful study of the group over a period of time may be required to discover it.

Several approaches have been used with success to determine why pupils refuse to cooperate: asking the pupils why they do not want to help, asking them to evaluate the teacher's behavior, and using the questions presented in the next section to analyze one's own teaching behavior. Since primary-level pupils are more apt than their older schoolmates to accept the teacher's request for assistance at face value, it is unlikely that a teacher in the primary grades will have to use more than the first and last approaches. In using the second approach with upper-grade children, the teacher may ask these questions to obtain the pupils' anonymous reactions: "What do you like most about your teacher?" and "What are some things which you wish that he would do differently?" Whenever the pupils suggest changes in the teacher's behavior that he can accept and carry out, he should demonstrate his sincerity by making the changes.

If the teacher must suppress the child to protect the best interests of the group, he should recognize that such action will not change the conditions which caused the child to misbehave.

So long as serious unsolved problems are lodged within him, his effectiveness will be impaired and he will continue to create discipline problems in the classroom. The child whom the teacher faces as a problem has taken months or years in learning to be what he is. Somewhere

in his personal history there is an explanation for his unacceptable behavior. All those who work with the child must cooperate to find that explanation.⁶

We should add that in most cases teachers will find that it is easier to live with a problem child after they understand the reasons for his behavior.

A quotation from Hymes also supports the necessity of the teacher understanding the child: "Your skill in teaching discipline depends on your ability to make the distinction between well children and those whose past have hurt them. With one group you can do straight teaching; the other needs remedial work."⁷

Good remedial work is usually preceded by a well-founded diagnosis. The next section discusses ways in which the teacher may appraise his own behavior, diagnose the source of the child's trouble, and improve the child's behavior.

Diagnosing and Treating Discipline Cases

From the very beginning Miss Bowen was worried about Denny—a tall, untidy boy who looked as if he were undernourished. Though he was six years old almost two months before school opened, he acted as if he were much younger than the other first graders. Even after six weeks of school he still played alone. Frequently, he was cruel and destructive. When he was given assigned work he was unable to follow instructions, and his attention span was so short that he rarely finished even the simplest tasks.

Finally, Miss Bowen decided that something must be done. Since Denny's parents had moved to this college town only a week before school opened, she found only two sources of information: test scores from the school readiness-testing program, and the personal history questionnaire⁸ which the mother had filled out when Denny entered school. From the test results she learned that Denny was a very intelligent boy and from the questionnaire she learned that Denny had been sick frequently, that he had a four-month-old baby sister, and that his father was an assistant professor of history at the local college.

⁶ Ohlsen, *op. cit.*, p. 71.

⁷ Hymes, *op. cit.*, p. 15.

⁸ See pp. 53-54 in Chapter 3.

To obtain additional information she asked for a conference with the parents. When Miss Bowen made the appointment with Denny's mother she noted that the mother also was concerned about Denny's school adjustment and wanted the father to be present for the conference. Miss Bowen agreed to come to Denny's home. The mother was somewhat reluctant to express her real feelings until the father returned from work. Both were quite defensive at first, but when they realized that Miss Bowen really wanted them to help her understand Denny and also was willing to help them understand why he behaved as he did, they were willing to cooperate. Denny was not present during the conference.

Although the college-owned apartment was very simply furnished, it was clean and showed good taste; this surprised Miss Bowen because Denny was usually dirty by the time he reached school. She also was surprised to discover how little these well-educated people knew about children.

For almost three years prior to the baby sister's arrival, Denny's mother had worked to support the family while the father completed his graduate work. While the mother was at work Denny had been cared for by a day nursery, a neighbor, or his father, and his father had been too preoccupied with his graduate work to give Denny anything more than minimum attention. Similarly, her job and her household duties used up almost all the mother's energy, especially during the six months before the baby was born. Finally, the mother's absence from the home when the baby was born was more than Denny could cope with, and his behavior became even worse.

Even as the parents told Miss Bowen this story, they began to understand Denny's behavior better. At least they were willing to admit their need for help. In addition to making arrangements for the parents to talk with a child psychologist on the college staff, Miss Bowen also helped them to identify Denny's strong points and to define positive steps which each could take to help Denny (in other words, she applied the case-conference technique described in Chapter 19). Furthermore, she laid the foundation for a wholesome parent-teacher relationship which encouraged cooperation in helping Denny.

Gradually, Denny learned that his home and school were much nicer places than he ever dreamed they could be. Of course, there were bad moments, but there were fewer of them, and his parents seemed to understand him much better. What is more, they spent more time with him and were more patient with him because they accepted him as a child—not as an inconsiderate little adult. As he learned to perceive himself as a good person, it became easier for him to accept Miss Bowen and his classmates. As the parents de-

veloped a more wholesome attitude and learned to share their successes and failures with Miss Bowen, this helped her too. They helped her understand Denny and they helped her discover how to work with him.

Obviously, not all parents will cooperate to this extent, but most of them will do so when they have had a chance to tell their own story and to discover that the teacher really wants their assistance in aiding their child. Even those who will not or cannot cooperate will often provide the teacher with information which will enable him to work with the child more effectively.

To what other sources may the classroom teacher turn to help in understanding the pupils who misbehave in his classroom? Obviously all the sources of information described in Chapters 3 and 4 could be used, but perhaps the teachers' anecdotes in the cumulative folder and the case conferences would be most useful. Where the school employs a school social worker and a school counselor or psychologist, their assistance should be sought since they should be able to help the teacher understand the significance of specific acts and to obtain additional information for the teacher.

The Teacher's Self-Appraisal

In any case the teacher should appraise his own behavior; sometimes he discovers that this has been an important factor in creating the conflict with the child. The following questions may suggest approaches to this important task.

HOW DO I FEEL ABOUT THIS CHILD?

Is it easy for me to accept him or is he the kind of child that I tend to reject? Which of his characteristics do I find most difficult to accept?

Though the teacher should try to accept each of his pupils, he usually finds it easier to accept some pupils than others. Occasionally a teacher will identify with a child and allow him to get by with too much. He also may reject others and be too severe with them. Whenever the teacher suspects that he is manifesting either attitude, he should examine his relationships with the child. Usually this can be done most effectively by reviewing specific incidents with the assist-

ance of a trusted colleague (fellow teacher, principal, or counselor). Evaluation of the teacher-pupil relationship when the child has behaved satisfactorily as well as when he has misbehaved, helps the teacher to discover how his actions may have contributed to the child's misbehavior. However, mere analysis is not sufficient; for best results the teacher must feel secure enough with this colleague to discuss his attitudes toward the child as well as to describe his actions.

WHAT DID THE CHILD DO THE LAST TIME

I WAS DISTURBED BY HIS BEHAVIOR?

How did this behavior affect the other children? Why did his behavior disturb me? Should I have been bothered by it?

As the teacher reviews the series of events which preceded a child's misbehavior, he should recognize his own needs at the time and the other pupil's behavior. For several reasons he may previously have been able to tolerate behavior which in this instance bothered him; for example, the teacher may have been tired or disturbed by his own personal problems; new limits may have been established recently; or the composition of the group may have changed. Frequently, the addition of even one or two new pupils will disturb the stability of the group and thereby threaten the teacher's security, thus causing him to change the way he reacted.

WHAT DID I DO TO IMPROVE THE SITUATION?

The teacher must consider not only what is best for the child who misbehaves but also what is best for the other pupils. Though punishment may do the parent or teacher as much or more good than it does the child, it can contribute to the child's mental health too by relieving the child of guilt feelings from which he knows no other escape—he now feels that he has paid the price for his misbehavior. In any case all children feel more secure when they know what the limits are and recognize that the limits are consistently enforced. Furthermore, it is easier for a child to accept restraints from someone who he believes loves, understands, and respects him.

The control of children without punishment should be an ideal; and when a parent finds that he is having to make frequent use of this type of

discipline, he can be sure that something is radically wrong with his approach to and relationship with his child. But if, on occasion, he finds that some type of physical chastisement is necessary he need not feel that he has failed as a parent or that the child will be irreparably damaged by it.⁹ [Naturally, this applies to the teacher, too.] . . . Human beings become neurotic, not because they have been over-disciplined, but because they have disciplined too little and unwisely.¹⁰

HOW DID I TRY TO CORRECT THE CHILD WHO MISBEHAVED?

Did my actions embarrass or unnecessarily antagonize him?

Though most children appreciate a friendly reminder, they resent nagging. Sarcasm and public humiliation will produce conformity, but they hurt the child and make him hate the teacher. Furthermore, since even the children recognize that the teacher is not playing fairly when he uses these techniques, they will often support the uncooperative child when he sets out to embarrass the teacher.

DID MY TECHNIQUES PRODUCE THE RESULTS

THAT I INTENDED?

Can I defend my methods educationally?

Was I fair to the child? Did I give him a chance to tell me his side of the story? How did I attempt to help the pupil understand the way in which his behavior affected his classmates?

WHAT DID THE CHILD DO PRIOR TO THIS INCIDENT

WHICH SHOULD HAVE WARNED ME OF ITS COMING?

What did I do to prevent this incident?

It is easier for the teacher to weigh all the evidence and to take intelligent action before he has to take a stand during a crisis than when the crisis occurs. After the incident it is quite natural for the teacher to want to defend his actions. The teacher should try to spot potential discipline problems early and prevent them. Even when he feels he needs the assistance of a trusted colleague in diagnosing the source of the trouble and in planning remedial instruction, he can profit more from such help before a crisis than after it.

⁹ Mowrer, *op. cit.*, p. 286.

¹⁰ *Ibid*, p. 291.

HOW GOOD ARE THE WORKING CONDITIONS
IN MY CLASSROOM?

- Can pupils concentrate on their work or are they frequently distracted? Are pupils taught to use their time wisely?
- Are pupils provided with appropriate materials and equipment to complete their work? What have I done to adapt my teaching to the situation? What else should be done?
- What can I do to make the school work interesting, meaningful, and useful to my pupils? What have I done to help pupils pursue their special interests?
- Have I forced pupils to work alone when they could have profited more from cooperative study with classmates?

Appraisal of the Pupil's Problems

Most pupils who are labeled as discipline cases have problems of their own which cause them to misbehave. The questions listed below were developed to help the teacher discover why his pupils misbehave.

DID THE CHILD UNDERSTAND WHAT HE
WAS EXPECTED TO DO?

- Was it reasonable for me to expect him to conform to these regulations? Did he misbehave because he was put into a situation which he was not prepared to meet?

When a child misbehaves the teacher may use the private conference to clarify the school regulations and to explain the reasons for them. But first the teacher should listen to the child's story and try to understand how the child feels. When he does this he usually discovers ways of improving his relationships with the child and understands better why the child misbehaved.

Private conferences may be used in this way to help the child release disturbing negative feelings. However, if the teacher is to succeed in this he must be able to accept negative attitudes which are expressed toward him and his colleagues and to recognize when the child is ashamed or afraid to express certain feelings. On such occasions the child needs assistance in telling why he is ashamed or

afraid and the assurance which comes from feeling understood and accepted. But telling the child that he may talk about anybody or anything is not enough—the child must discover for himself that it is safe and appropriate to express these negative feelings. Naturally, the child's previous relationships with adults, and especially with this teacher, will play an important part in determining how quickly he will be able to discuss his negative feelings. While teaching the child to release his negative feelings the teacher also should teach him how to choose the time and place for releasing them. Conferences with children are discussed further in Chapter 19.

**WERE ANY OF THE CHILD'S BASIC NEEDS BEING
NEGLECTED WHEN HE MISBEHAVED?**

A careful appraisal of the child's behavior may reveal that the child did not intend to misbehave, that he was so intent on satisfying some unmet need that he failed to consider how his behavior affected those around him. Though the teacher may have to stop the activity to protect the best interests of the other pupils—and sometimes of the pupil who is misbehaving—the teacher also should teach him more appropriate ways of satisfying his needs and of expressing his desire for help when he cannot satisfy them.

HOW WELL IS THE PUPIL ACCEPTED BY HIS CLASSMATES?

Who works with him?

Who plays with him?

Who chooses him on sociometric test questions?

Who gets into trouble with him?

The teacher should help each child discover what his classmates expect from him and how to earn recognition with acceptable behavior. Many children who misbehave either do not know how to do what is expected or do not believe they are good enough to win recognition by doing it. Sometimes these pupils appear to be attacking the teacher as a person when they are really attacking him as a symbol of authority. Even this is painful for the teacher, but he can learn to cope with it when he realizes that most such children are not rejecting him as a person.

HOW DOES THIS CHILD'S PATTERN OF SCHOOL
ACHIEVEMENT FIT INTO THE PICTURE?

Where does he do his best and his poorest work?

Is there any relationship between the quality of his school work
and his misbehavior?

Does he get into trouble more frequently when he is working on
some assignments than on others?

Does he know how to do his assigned work?

Does he feel that he can ask for help when he needs it?

Is he challenged by the work that he is expected to do?

Children get into trouble both when they are not challenged by
their work and when the work which they are expected to do is too
difficult for them.

DOES THE FAMILY CHOOSE TO LIVE BY UNUSUAL VALUES
WHICH ARE REFLECTED IN THE CHILD'S SCHOOL BEHAVIOR?

A child from such a home may sincerely try to do what he
believes to be right and still get into trouble. When the teacher
suspects that he has this type of discipline case, he should give the
child a chance to explain what he thought he was expected to do and
where he failed, if at all. Doing this in a private conference also
enables the teacher to clarify what really was expected of the child.

WHAT KIND OF A HOME LIFE DOES THE CHILD HAVE?

Do both parents live in the home?

What other adults live in the home? What is their relationship
with the child?

How do the members of the family treat one another?

How do they feel about one another?

What limits are placed upon the child's behavior in the home?

How are these limits enforced? How does the child feel about
these limits and the way in which they are enforced?

HAVE I NOTICED ANYTHING ABOUT THE CHILD'S BEHAVIOR
WHICH SUGGESTS THAT THE CHILD MAY NEED MEDICAL CARE?

What does the health record reveal about his general physical
condition?

Neither punishment nor the personal attention of an interested teacher can compensate for poor health, improper diet, or insufficient sleep. When the teacher suspects that any of these may account for the child's poor school adjustment, he should consult the school nurse (or county nurse where one is not employed by the school district) who can obtain information from the parents and the family physician. Where the family is unable to finance needed medical care, she may be able to secure welfare funds for a complete physical examination and the necessary medical care.

But does the teacher have time to obtain all the information needed for the kind of diagnosis described above? This may be answered with another question: Can he afford not to do it? Teachers have difficulty living with the child who frequently misbehaves, and it takes a lot of energy, too. On the other hand, the teacher enjoys seeing the child's behavior improve as a result of his efforts. What is more, only a very small proportion of the class are really serious discipline cases, and some of the other teachers usually know these pupils and will help the teacher to obtain the information he needs.

Emotionally Disturbed Pupils

In almost every school building there are a few pupils who misbehave because they are emotionally disturbed. Usually there are other disturbed pupils who do not misbehave, but who should also be referred to a specialist for diagnosis and appropriate treatment. (Pupil behaviors which suggest the need for these services are described in Chapter 3 and emotionally disturbed children are discussed in detail in Chapter 18.)

But how can the teacher obtain for his disturbed pupils the help they need? First he must know the agencies to which he may make referrals and the nature of their services so that he can interpret them for his pupils and their parents.

The teacher should first become acquainted with the specialists employed by the school district. These include the school counselor (sometimes called guidance counselor or counseling psychologist), school psychologist, and school social worker. Usually these specialists

can help the teacher or the guidance committee diagnose problem cases, describe their own services and the services of other specialists employed by the school district, describe the services of community agencies and the persons in private practice who provide professional services for such children, and help the teacher make plans for referral.

Where there are no such specialists employed by the school district, the teacher may turn to the following organizations for information which will enable him to decide whether and to whom he should make a referral: colleges and universities which have counselor-training programs, the local council of social agencies, the county medical associations, the state association for mental health, the state commission on mental health, the state department for public instruction, and the state psychological association.

The Responsibility for Discipline

Good learning conditions can be maintained only when the teacher assumes responsibility for discipline within his classroom and cooperates with his colleagues in enforcing the school's regulations. However, this can be done either autocratically or democratically. Throughout this volume we recommend that the teacher function as a democratic leader.

Does this mean that the teacher has failed when he sends someone who is interfering with the best interests of the group from the room? It does if he asks some other person to handle the discipline problem. If, however, he merely asks someone to supervise the child's activities until he can work with the child and correct the difficulty, he has not failed. Furthermore, it would be wrong to seek the assistance of the principal, or some other colleague, and the parents before attempting to resolve the problem with the child. Frequently, the teacher must make a temporary adjustment in order to get such a child back into the classroom while he is gathering the necessary information and obtaining the cooperation which he needs to achieve a better over-all adjustment.

What then is the principal's role in solving discipline problems? Should he be primarily a consultant for teachers on such matters? Though he can be most effective when he works with teachers, he will be called upon to take a more active role in solving some discipline problems. Obviously, the principal is responsible for maintaining good working conditions throughout the school. He must protect the best interests of both pupils and teachers. Eventually, some cases land in his lap, and usually these are the more difficult ones.

When the principal is called upon to solve a discipline problem for the teacher, it is not sufficient for him to correct the child and to convince him what he must do to get along with the teacher. He also should try to help the teacher learn how to meet similar emergencies more effectively in the future.

Occasionally, parents will become very critical of a teacher's behavior. Usually such parents turn to the principal for support. Should the teacher expect the principal to defend him? Yes, but not to picture him as faultless when he has used poor judgment. If the principal supports the teacher when the teacher is wrong and the pupil is right, he alienates the parents and teaches the child to question social justice—and anyway, he cannot be very convincing under such circumstances. Instead he should listen to both the parents' and the teacher's story (preferably at different times if both are angry) and try to convince each that he is concerned about the best interests of both the pupil and the teacher and that he needs the assistance of all those involved to achieve the best solution to the problem. After they have released their negative feelings in this permissive atmosphere, then both parties usually can focus attention on solving the problem without having to prove who was at fault.

Then what can the teacher expect? He should expect to be treated fairly, and to have the principal help him with discipline problems which are too difficult for him to handle by himself. Being treated fairly includes consideration for his problems and the situation as well as for the act itself. It also includes fair treatment with reference to tenure and promotions when the teacher learns from the experience and corrects the deficiencies exhibited in the incident.

On the other hand, the teacher should not expect the principal to ignore mistakes. If the teacher fails to seek the principal's assistance

following an incident in which poor judgment was shown, he should understand why the principal may request a private conference to review the incident and to discuss more appropriate methods for dealing with similar situations.

Although the problem of discipline has many ramifications, its essence can be summed up in one sentence: the teacher's responsibility for discipline goes beyond administering restraints; he has the important responsibility of teaching self-discipline—of teaching his pupils to assume increasingly greater responsibility for their behavior as they mature.

DISCUSSION QUESTIONS

1. How can the teacher help the child learn to do things for and by himself and at the same time teach him to do things with and for others?
2. Why do teachers have greater difficulty accepting some pupils than they do others?
3. What can the teacher do to prevent his own values from interfering with his helping certain pupils?
4. What can you do to avoid Ann Jeffery's mistakes?
5. How did Ann eventually establish limits for her pupils?
6. What did Ann do about the important problem areas for which the pupils failed to establish rules?
7. What are some of the common reasons why children misbehave?
8. How may a teacher's own personal problems interfere with his maintaining good learning conditions?
9. What can pupils do to help maintain good working conditions within the classroom?
10. What can the teacher do to prevent discipline problems?
11. How can parents help solve discipline problems?
12. What are some of the common causes for children's misbehavior?
13. What behavior do you think most teachers expect from their pupils? Select five teachers you know and ask them. Think of reasons why these persons interviewed might differ. Try to differentiate between the differences which reflect their own needs and those which indicate a good adjustment to a situation.
14. What do you believe are the principal's responsibilities for discipline? Wherein do they differ from the way these responsibilities were defined in this chapter?

SUGGESTED READINGS

1. Baruch, Dorothy W., *New Ways in Discipline*. New York: McGraw-Hill Book Company, 1949. From this book on parent-child relationships, the teacher can obtain many ideas which will enable him to understand better how the child feels and what may be done to help the child adjust to the school setting. She answers such important questions as: (1) How can the teacher discover the underlying reasons for a child's misbehavior? (2) Why is it important for the teacher to understand how the child feels? (3) How can the teacher let the child know that he understands how the child feels? (4) Why is it important for the child to express his negative feelings? How can this be done without others being hurt?
2. Bai, Bingham, "Freedom, Discipline, and Personal Security," *Progressive Education* 26:70-74 (January 1949). Here the author discusses how the teachers and parents can contribute to a child's mental health. He also reveals how their methods of disciplining the child can affect the development of the child's self concept.
3. Hymes, James L., *Behavior and Misbehavior*. New York: Prentice-Hall, 1955. After careful analysis of the nature of the problem, Hymes explains how to teach discipline to normal children and how to do remedial teaching with emotionally disturbed children.
4. Kelner, Bernard C., *How to Teach in the Elementary School*. New York: McGraw-Hill, 1958. This book was written for beginning teachers and as a reference for in-service education of experienced teachers. The teacher will profit from its use in solving day-to-day problems in teaching, and especially in classroom management. In Chapters 5, 6, and 7 the author deals with such relevant problems as developing class spirit, helping the problem child, and relating social studies instruction to the improvement of citizenship within the classroom.
5. Mowrer, O. H., "Discipline and Mental Health," *Harvard Educational Review*, 17:284-296 (October 1947). In this paper the author explains how good discipline can contribute to mental health. He also discusses what is wrong with the way some parents use punishment in disciplining their children.
6. Redl, Fritz, *Understanding Children's Behavior*. New York: Bureau of Publications, Teachers College, Columbia University, 1949. In this pamphlet for parents and teachers Redl explains why the child is often misunderstood and how difficulties can be worked out when they occur.
7. Stendler, Celia B., "Climates for Self-Discipline," *Childhood Education*, 27:209-211, (January 1951). Stendler accomplishes two important goals in this paper: she describes the climate in which

pupils can be taught self-discipline and the kind of children who have difficulty learning self-discipline.

8. *Teacher Opinion on Pupil Behavior*, 1955-56. Washington, D. C.: National Education Association Research Bulletin, Research Division, National Education Association, April 1956. This pamphlet presents the findings obtained from a teacher poll on pupil behavior in school. The findings deal with the extent of the problem, specific types of misbehavior, and factors which seem to be related to misbehavior.

SUGGESTED FILMS

1. *Angry Boy* (33 minutes). Sponsored by Mental Health Film Board and produced by Affiliated Film Producers, Inc., 1951. At the outset the film shows how a boy was caught stealing money from his teacher's purse. Following this it shows how the principal made a referral to the community guidance center and how the members of their staff worked with both the mother and child.
 - 1.1 How do you feel about the way the teacher behaved?
 - 1.2 How did the principal help the mother accept psychiatric care for her son?
 - 1.3 Why did the boy steal the money?
2. *Helping the Child to Accept the Do's* (11 minutes). Chicago: Encyclopedia Britannica Films, 1948. This film illustrates how the child reacts to the do's and how the methods used in teaching do's affects the development of the child's personality.
 - 2.1 What factors seem to account for individual differences?
 - 2.2 How can the teacher take these factors into account in teaching do's and don'ts?
3. *Helping the Child Accept the Don'ts* (11 minutes). Chicago: Encyclopedia Britannica Films, 1948. This film treats the teaching of don'ts in much the same way which the film listed above treats teaching the do's.
 - 3.1 What errors do teachers and parents frequently make in teaching don'ts?
 - 3.2 When should the teacher restrain the child?

Appraising Pupils' Personal Adjustment

THE WELL-ADJUSTED PERSON enjoys life. He has learned how to satisfy his basic needs and to solve his problems; he identifies the source of each difficulty, defines reasonable alternatives, chooses one, and takes positive action. When he fails, he tries to determine why the chosen alternative did not work, re-analyzes the problem, seeks new information, seeks new alternatives and re-evaluates the old ones, selects one, and takes positive steps to solve the problem again. In other words, he recognizes his problems and does something about them. But to do these things he must accept himself and he must believe that he can cope with the problems which he faces.

Good adjustment calls for emotional balance. It is an outlook of life which keeps the person effective within the limits of his resources, and on good terms with himself. The aim is not to have the person so contented with what he is that he never wants to improve. Self-acceptance is present when the person thinks that he is progressing toward his ideal. The three cores of good adjustment are realism, commitment and self-acceptance. . . .

. . . A realistic person tries to take facts into account, to criticize his own planned action. The realistic person is aware that if he is careless or thoughtless he may lose rewards.

Realistic awareness does not alone produce adjustment. A person must be willing to commit his energies to a plan of action even though he knows he may fail. Problem situations are ambiguous, and the facts alone usually do not permit one to decide with certainty what he should do. The pupil who waits until enough facts are available to assure success will pass up his opportunities . . . commitment to the goals is the key to effort. The person has to value the goal so much that the possibility of attaining it outweighs the risk of failure. Conversely, he must be able to accept possible failure so that the threat is not disorganizing.

A self-accepting person knows his weaknesses. He knows which faults he can alter and learns to live with the others. He feels that despite his limitations he is a person to be approved. He feels that he is doing what can reasonably be expected of him. He approves himself without feeling that he is perfect.

The key to adjustment is success: success in winning friendships, in coming to terms with authority, in completing tasks and in winning respect. The school fosters success by placing the person in the situations he needs to adapt to, by helping him set appropriate goals, and by giving him the assistance he needs to attain the goals.¹

This picture of the well-adjusted person gives the teacher a frame of reference for appraising personal adjustment. If, however, the teacher is to identify those pupils who are basically well adjusted but require some special attention from him and those who are seriously disturbed and should be referred to specialists, he also must be familiar with those behaviors which suggest poor adjustment. These are listed below:

Has a physical handicap to which he cannot readily adjust (it may or may not be perceived as serious by others).

Has failed one or more grades.

Works hard yet does poor school work.

Gives up easily when things do not go well—lacks confidence in himself.

Does poorer (or much better) work than one would expect from a child with his ability.

Has great difficulty in adjusting to changes in routine.

Tends to be overdependent on adults.

Hesitates to try new things.

¹ Cronbach, Lee J., *Educational Psychology*. New York: Harcourt, Brace and Company, 1954, pp. 559, 560, 563, 575.

Does not seem to know how to earn recognition from his classmates.

Tends to be chosen last—to be left out of things.

Usually works and plays by himself.

Hesitates to participate in the group's activities—is seclusive, reticent and extremely quiet.

Is afraid to stand up for his own rights.

Is extremely sensitive or "thin-skinned"—frequently has his feelings hurt.

Carries a chip on his shoulder—tends to be defensive and quarrelsome.

Tends to be uncooperative—to want to do as he pleases regardless of what his classmates wish to do.

Is so sure of himself that he cannot see and accept deficiencies in himself which others see readily.

Is resentful of criticism.

Tends to be cruel, malicious, or destructive.

Tends to bully other children.

Lies frequently.

Steals frequently.

Is often truant.

Does an excessive amount of daydreaming.

Is easily excited.

Is tense and easily upset.

Is restless and hyperactive.

Exhibits nervous behaviors such as fidgeting, biting finger nails, and crying easily; also may have a tic such as an eye twitch.

Frequently talks about fears and guilt feelings.

Is extremely jealous of other pupils.

Is often sullen or moody.

Is unusually suspicious of others.

Has unusually pessimistic outlook on life.

When a teacher uses the above symptoms as cues to identify children who need special assistance, he should take into account each child's maturity and his family and community background. These may account for behavior which otherwise would lead the teacher to conclude that the child is maladjusted. Furthermore, he

should realize that a child is not a deviate merely because he exhibits some deviant behavior, and that careless labeling of a child as a deviant can hurt the child. Instead, he should make an accurate record of the child's behavior in order that he may use it in working with colleagues to help him.

Occasionally a teacher will observe behavior which suggests that the child is maladjusted, but with more information he will understand readily why the child behaved as he did. Sometimes an emergency accounts for such behavior. At other times the teacher will learn that the unusual behavior is counterbalanced by strengths which remove the need for concern about it. In any case a teacher should observe pupils' behavior in order to understand and help them, not to classify and to assign labels to them. To achieve this goal teachers must decide cooperatively what data, both test and nontest, they need to understand their pupils.

The remainder of this chapter is devoted to: (1) techniques for obtaining the child's picture of himself; (2) techniques for obtaining classmates' picture of each child; (3) techniques for obtaining the staff's picture of each child; (4) the use of personality tests in studying pupil adjustment; and (5) the use of the cumulative record in the guidance program.

The Pupil's Picture of Himself

Private Conferences

Though the primary reason for scheduling a private conference is to help the pupil solve his problems, these contacts also enable the teacher to obtain the child's picture of himself. Such conferences often reveal how he thinks each member of his family feels about him and how he feels toward each of them; his perception of his relationship with classmates and other peers; his perception of his successes and failures in school; those situations in which he has been happiest and unhappiest; and his perception of the problems which he believes he must solve.

"Although it is highly important to distinguish fact from fiction, the teacher must realize that feelings are facts. A child's feeling that

his mother is disappointed in him or that his home is old fashioned is a significant part of the information needed to help him, even though the child's concept does not agree with the facts as seen by more objective observers."² Hence, the teacher must help the child tell his story to learn how he sees things.³ Further, he should hesitate to argue with or to attempt to correct the child, for if he does these things, he will not obtain the child's perception of the events; a child shares these with only those persons who accept him and try to understand him. On the other hand, the teacher should note where the child's perception seems to disagree with the facts as the teacher sees them.

Background Questionnaire

Since most schools obtain background information from the parents at the time of the child's first registration, there is some question whether we should include it with the self-report techniques. On the other hand, even before the child can write he is usually encouraged (or should be) to help provide the required information and does supply the information for supplements which are used in upper grades.

Such a questionnaire is commonly used to obtain information about the child's special interests and hobbies, his family, and his health history. After the committee which is appointed to construct the questionnaire obtains from the entire staff what they would like to know about their pupils, they must decide which of their questions can be answered through use of the questionnaire.

Though both pupils and parents will discuss all relevant topics with a trusted counselor, they frequently resent being asked to answer very personal questions on a questionnaire which is used by all the staff. For example, some will always resent questions which probe into family income, parent-child relationships, and parent-parent relationships. Therefore the committee should scrutinize every item on

² T. L. Torgerson and G. S. Adams, *Measurement and Evaluation for the Elementary School Teacher*. New York: Dryden Press, 1954, p. 168.

³ Specific suggestions for conducting private conferences are made in Chapter 19. In such instances as this the teacher may help the child start talking with a comment like: "I have a feeling that something is bothering you. Would you like to tell me about it?"

the questionnaire from the respondent's point of view. Sometimes the committee can reword a question to reduce its threatening character and still obtain the needed information. In any case, the questionnaire should include only those questions to which the respondent can respond truthfully with a minimum of threat, otherwise respondents will give inaccurate answers to some questions and leave others unanswered.

Autobiography

In both the autobiography and the personal-data questionnaire two factors determine whether the information given is accurate: the degree to which the respondent trusts those who will see it and the degree to which he perceives the situation accurately. Though the autobiography usually allows more freedom than the questionnaire, and consequently different pupil's autobiographies usually answer different questions for teachers, these two techniques tend to duplicate each other. Of course, this provides the teacher with a method of checking on the accuracy of the reported information.

Since many elementary-school pupils have not developed adequate writing skills to write their life stories, teachers often arrange for pupils to tell their life stories. Obviously, this means that the teacher must create an accepting, permissive climate for such storytelling sessions and arrange to take notes on the crucial factors listed earlier. He also must allow enough time to brief the pupils on what is to be included in the autobiography and give them ample opportunity to ask questions.

Some teachers ask their pupils to include in their autobiography the answers to many specific questions and in that sense it may duplicate many items included in the questionnaire. Other teachers allow their pupils considerable freedom, permitting them to include anything they wish. The following statement shows how a third grade teacher introduced the idea of pupils telling their life stories at the opening of the school term (she did this after she introduced herself and gave a brief story of her own life).

"Now perhaps you know me a little better than you did. In order that each of us may get to know the rest of our class better, I should appreciate it if each of you would tell the rest of us your life story. Start with the first thing you can remember and bring us right up

to today. Tell us about the interesting things you have done, the times when you were happy, the times when you were sad, the things you enjoyed doing, and the things you did not like doing.

"Before we start I would like each of you to think for a few minutes about what you want to say. [Paused for several minutes.] Are there any questions? [Paused, answered one question and encouraged pupils to ask others.] Who will be first?"

Such an introduction explains the assignment and helps create a friendly, accepting atmosphere in which pupils can tell their story without feeling too threatened. Nevertheless, some pupils still will be unable to discuss some parts of their life story. If, however, each speaker realizes that his classmates and teachers accept him and really want to help him, and that everyone must be on guard lest he describe his past as he wishes he could have lived it instead of as he did live it, then he will be motivated to tell an accurate story.

In addition to providing the teacher with information about each child, this experience helps each pupil clarify the relationships among the important events in his life. While he is struggling to make his life story make sense to his audience, he achieves new insights for himself.

Picture Stories

Most pupils can express their feelings toward themselves and their associates more easily through a character in a story than in an autobiography. Typically a pupil will identify with one character in the story and express his attitudes toward life through that one character. Usually the identification character is either the person mentioned first in the story or the one who does most of the acting. Frequently, these two are the same.

Though pupils should be encouraged to find their own pictures, and thus be encouraged to use stimulus materials which will enable each to express his own special feelings and needs, obviously many pupils will have few sources from which they may select pictures. The teacher must therefore collect a variety of pictures from which the pupils may choose. In collecting these from newspapers, magazines, pupils' art work, prints, and advertisements, he should look for pictures which include children of about his pupils' age, and which motivate pupils to express a wide variety of moods and attitudes—scenes ranging from happy moments to desperate and unhappy ones.

As in the case of the autobiography, best results are obtained when pupils are carefully oriented before telling their stories. This requires that the teacher explain with care what is expected, encourage pupils to ask questions, and watch for cues which suggest that further explanation is needed. Murray's directions for his *Thematic Apperception Test*⁴ may be used for these stories. He asks each subject to tell as dramatic a story as he can for each picture and suggests that the subject relate what he thinks led up to the scene shown in the picture, what he believes is happening in the picture, and how the story ended.

From several such stories the teacher usually can learn how the pupil perceives himself, how he believes he is treated by others, how he reacts to others, and how he attempts to solve his problems. Since, however, a pupil's stories are colored by temporary conditions, the teacher usually needs to hear or to read at least five or six such stories at different times before he can draw any tentative conclusions concerning the pupil's needs and his picture of himself.

Classmates' Picture of a Pupil

How do peers' reactions to a pupil relate to appraising a pupil's personal adjustment? A well-adjusted pupil makes a good social adjustment. He learns to accept his peers and they learn to accept him. In addition, the degree to which a child is accepted by others often reflects the extent to which he accepts others; and his ability to accept others is often an indication of the extent to which he can accept himself.

Does the elementary teacher need sociometric test data to understand his pupils' social relationships? Do not primary-grade pupils reveal their feelings quite openly? Usually the teacher can detect how pupils of this age feel toward each other, but as the child matures the teacher's ability to predict pupils' attitudes toward each other becomes less accurate. Relationships are not always what they appear to be. Occasionally, even a primary teacher is surprised by sociometric

⁴ Henry A. Murray, *Thematic Apperception Test Manual*. Cambridge, Mass.: Harvard University Press, 1943.

test results. Frequently, upper-grade children do not reveal their real attitudes toward peers in situations where teachers can discover them.

Of course, pupils do not always appraise each other's behavior accurately. Nevertheless, classmates' perceptions of a pupil will determine how he is treated by them. The teacher should therefore, know how pupils feel about each other—both to help the pupil discover what is expected of him and to correct his classmates' wrong perceptions of him when such a condition exists.

A teacher may use sociometric methods to identify leaders, isolates, rejected members of the class, and even early school leavers;⁵ and he may use these data in organizing work groups and play groups. Before a teacher can help his pupils improve their human relationships at work and play, he must first discover how they really feel toward each other.

Whenever a teacher uses sociometric techniques he must satisfy certain conditions to obtain reliable results: (1) he must explain to his pupils why he wants the information and how he will use it to help them; (2) he must assure them that no one except the teacher will see any pupil's responses; (3) while the pupils are reporting their responses they must be seated so that no one except the teacher will hear or see what they report; (4) both the questions and the directions must be understood by the pupils; (5) he should prepare a large seating chart and place it where everyone can use it in recalling and spelling names; and (6) he should watch for pupils who need help in answering the questions.

A Sociometric Test

When a teacher wishes to give a sociometric test he may very well enlist his pupils' assistance in formulating the questions. In addition to obtaining pupils' ideas and giving them a chance to help create a good climate for testing, the teacher can determine from the discussion whether pupils really understand what the nature of the choice is with reference to each question. The following test was developed by a fourth-grade teacher with the assistance of his pupils.

⁵ Raymond G. Kuhlen and E. Gordon Collister, "Sociometric Status of Sixth Graders and Ninth Graders Who Fail to Finish High School," *Educational and Psychological Measurement*, 12:631-37 (Winter 1952).

(Dittoed copies of the test, including directions, were given to each pupil.) The reader should note that pupils are not asked to indicate whom they like most and least—they are asked to name whom they would choose first and last. Though the same names tend to be obtained by using the first approach, the data obtained with the questions used here usually produce less anxiety in pupils.

Directions. Yesterday we wrote seven questions to find out how the rest of the class feels about each of you. Read each of the first six questions very carefully; then copy from the seating chart that I have drawn on the blackboard, the two names which you think of first when you read each question. In answering question number "7" you may use as many names as you wish; you also may answer it with the word "none." Are there any questions? Write your names on your paper and then answer the questions.

(Your Name)

1. Whom would you choose first to sit at the two desks closest to yours? _____;
2. Whom would you choose last to sit next to you?
_____;
3. If you needed help with your school work, whom would you choose first to help you? _____;
4. Of all the pupils in the room, whom would you choose last to help you with your school work? _____;
5. If your mother said that you may invite only two pupils from this room to attend your birthday party, whom would you choose first? _____;
6. If your mother said that she had enough food for all but two pupils, whom would you leave off your invitation list?
_____;
7. Are there any pupils in this room whom you do not know well enough to decide how you really feel about them? If your answer is "yes," write their names here.
_____.

But obtaining the pupils' responses is not sufficient; the teacher also needs to summarize the responses to each question and to study the relationship among the responses to various questions.

Although much has been written about the merits of the socio-

		Chosen																											
		B1	B2	G1	B3	G2	G3	G4	B4	G5	B5	B6	G6	B7	B8	G7	B9	G8	B10	G9	G10	B11	G11	G12	B12	B13			
Choosers	B1		3	7		2,6			3,5	7		1			1,5	7		7	7		7		2,6	4					
	B2	6				2	3		1,3			1,5				4	5					2,6	4						
	G1	7					1,3	7	7		2	5		7		4			4		4	2,6	6	1,5	3	7			
	B3		3	2,6		4			1,3	7	5				1,5						7		2,6						
	G2			1			3		3	7	2		1,5						2,4		5	6	4,6			7			
	G3	7		1,5		2,6		1,3	3				5			4			4			2,6					7		
	G4						1,3,5		3				1,5			6			4			2,6	4				2		
	B4		1,5		3	2,6		3							1,5					4			2,6	4					
	G5	7		7			3,5	3			2,4		1,5	1	7		7		7		7		2,6	4		6	7		
	B5		1,5			6				7		1,3				4							2,6	2,4		3,5	7		
	B6		1,5		3	2,6	3						1,5		2,4		7		7	7	6	4							
	G6		3			1	3,5				2			1,5	4				4			2,6	6				7		
	B7							1,3,5			2,6		1,5						3	4			6	2,4					
B8	5	1,3						3			1,5					4	7		7	7	2,6	2,6							
G7							1,3,5			2,6		1,5										2,6	4		3	7			
B9		1,5		3,5	2,4				7						6			1				2,6			3				
G8							1,3,5	7		2,6	1,5	3			4							2,6	4						
B10		1,3,5		2,6	4								1,3			5						2,6							
G9	7	3					1,5	7			1,5			2,6	4	2	4				6			3	7				
G10	7				1		1,3,5	7			5				4			7			2,6	2,6		3	7				
B11		3,5						1,5	4	2	7					4	7					2,6	6		1,3				
G11	7	1,3,5					1,3				5							4	2,6	2	4,6								
G12				1,5	2,4	3,5				6	1				4							2,6			3	7			
B12		1,3,5						3	7						4							2,6	2,6	1		5			
B13		5		1,5	2	3		3	7		1				2,6		7	4		7		6							
Totals	q1	0	(8)	2	2	2	2	(7)	3	0	0	5	(9)	4	2	0	0	0	1	0	0	0	0	1	0	1			
	q2	0	0	1	1	(8)	0	0	0	0	(6)	2	0	0	0	3	0	1	1	1	1	(14)	(10)	0	0	1			
	q3	0	(9)	0	3	0	(9)	(8)	(9)	0	0	1	0	2	0	0	0	1	0	0	0	0	0	0	(7)	1			
	q4	0	0	0	0	4	0	0	0	1	2	0	0	0	0	(7)	(7)	0	(9)	1	0	1	(17)	1	0	0			
	q5	1	(9)	1	3	0	4	5	2	0	1	2	(12)	2	2	0	2	0	0	0	1	0	0	1	1	1			
	q6	1	0	1	1	5	0	0	0	0	3	1	0	0	0	4	0	0	0	1	0	(19)	(11)	0	1	0			
	T	0	(26)	1	6	15	15	(20)	14	1	10	5	(21)	8	4	14	5	0	9	3	0	(34)	(38)	1	7	2			
q7	6	0	2	0	0	0	0	1	(11)	0	0	1	0	2	1	1	5	2	4	4	0	0	0	0	(11)				

FIG. 1. Fourth-grade pupils' responses on a sociometric test. In filling in a matrix chart such as this, colored pencils should be used. Here a roman figure indicates black for a positive response, an italic figure indicates red for a negative response, and a boldface figure indicates blue for lack of knowledge.

gram as a technique for interpreting such data, it has one serious limitation from the teacher's point of view: it cannot be used efficiently in studying the relationships among responses to several questions. However, this can be done readily by using a matrix table, whose construction we can demonstrate by using the fourth-grade pupils' responses to the questionnaire (see Figure 1). We proceeded as follows:

1. Arranged the pupils' names alphabetically and assigned letter B (boy) and G (girl) to the names in the list.
2. Arranged the pupils' test papers in same order.
3. Recorded letters for choosers along the left margin and the same letters to represent those chosen along the top.
4. Recorded the choices of pupil 1 (B₁) as we moved along the first row, marking a black 1 (to represent Question 1) in squares under B₆ and B₈—his choices on Question 1. Since Question 2 is the negative counterpart of Question 1 we recorded these choices in red (which we show in italic figures in Figure 1); since he chose G₂ and G₁₁ we recorded a red 2 in the column under these letters. Continuing this procedure for B₁'s choices, we recorded black 3's under B₂ and B₄, red 4's under G₁₁ and G₁₂, black 5's under B₄ and B₈, and red 6's under G₂ and G₁₁. Question 7 was neither positive nor negative, so we used blue to record 7's under G₁, G₅, G₇, G₈, B₁₀, and G₁₀ (Figure 1 shows this as boldface figures). After completing this process for each of the other twenty-four pupils and totaling the responses for each pupil (the totals for columns) we obtained Figure 1. T represents the algebraic total for the first six questions. For example, B₉ was named by seven pupils on Question 4, by two pupils on Question 5, and by no one on Questions 1, 2, 3, and 6, therefore his total score was negative 5. In addition, one pupil felt that he did not really know B₉ and chose him on Question 7.

Figure 1 shows that most pupils wanted to be seated near B₂, G₄, and G₆; that the pupils believed that they would request help from two of these three (B₂ and G₄) in addition to three others, G₃, B₄, and B₁₂; and that another pair (B₂ and G₆) from the three would be the first to be invited to a birthday party. Except for G₁₁, who was rejected on most questions, each of the other children who were rejected appeared to be so with reference to a special situation.

G2 and B5 on Question 2; G7, B9, and B10 (all poor students) on Question 4; and B11 on both Questions 2 and 6. These responses are fairly typical for fourth graders: they tend to choose pupils of their own sex first, and, like most people, choose different persons for different purposes. Since, however, there is fairly obvious duplication in Questions 1 and 5 (and Questions 2 and 6), we see at once why many pupils used the same names in answering these questions.

From the algebraic totals we note that the stars are B2, G4, and G6; that the rejected are B11 and G11; and that the isolates are G5 and B13. Furthermore, G2 and B5 obtained a sufficient number of negative responses on Question 2 to warrant special study of their cases. If he did not already know that G7, B9, and B10 were poor students, the teacher should seek more information on them too. In other words, the sociometric test can only help identify the rejected and the isolates. Further study is usually needed to determine why they are so perceived and what may be done to help them.

One more point should be made with reference to use of sociometric tests: both the negative items (e.g. 2, 4, and 6) and the isolate item (7) are needed to discriminate between the rejected and the isolates. For example, had only the three positive items been used we would not have been able to detect that pupils felt differently toward G2 and B13.

Who's Who in My Room

This technique, sometimes called the "guess who" test, also may be used to determine how pupils feel about each other. However, in this instance each pupil is required to name other pupils who have specific characteristics rather than to choose pupils with whom he would like or not like to associate in specific situations. Here are some of the questions which elementary teachers have used:

Who works hard yet does poor school work?

Who does well in school without trying very hard?

Who gives up easily when things do not go well?

Who is usually chosen last in organizing games on the playground?

- Who usually works and plays by himself?
- Who gets his feelings hurt easily?
- Who seems to get along with everyone?
- Who is the playground bully?
- Who is afraid of a lot of things?
- Who is always friendly?
- Who is a good story teller?
- Who goes out of his way to be nice to everyone?
- Who is good at planning things and getting things done?
- Who can be trusted with a secret?
- Who likes to show-off in front of others?

Some teachers ask pupils to write one or two names beside every question in the test; others permit each pupil to record as many names as he wishes—or "none" if he cannot think of anybody. When the teacher involves the pupils in developing items for the test, as we have suggested for the development of the sociometric test, usually only those items which could be used to describe some pupils are included in the test. Under such circumstance it is quite appropriate to ask pupils to write at least one name beside every question.

The Social Acceptance Scale

This technique was developed through the cooperative efforts of a group of elementary teachers and the Evaluation Division of the Bureau of Educational Research at Ohio State University.⁶ This technique requires that the teacher provide each pupil with the class roll and ask them to: (1) write "1" in front of his own name; (2) write "2" in front of every pupil's name whom he would like to have as a very close friend; (3) write "3" in front of every pupil's name whom he would like to have as a good friend; (4) write "4" in front of every pupil's name who is all right, but not a friend; (5) write "5" in front of every pupil's name whom he does not really know; and (6) write "6" in front of all the names that are left.

Pupils' responses on this instrument will give teachers a general picture of classmate acceptance of each pupil. Items 2, 3, 4, and 6

⁶ Louis Rath, "Evidence Relating to the Validity of Social Acceptance Tests," *Educational Research Bulletin* 26.141-60 (September 1947).

reflect the degree to which each pupil accepts each of his classmates, and the total number of responses in each category reflects each pupil's general level of acceptance by classmates. Item 5 identifies isolates and item 6 identifies the rejected. In other words, this technique gives a general picture of acceptance whereas the sociometric test reveals to what extent each pupil is accepted in specific situations.

The matrix table may be used to summarize information obtained from both the social acceptance scale and the "who's who in my room" test. Though it is appropriate for the teacher to classify each question as positive or negative and compute an algebraic total for both the "who's who" test and the sociometric test, he should not do this in summarizing responses obtained from a social acceptance scale without first assigning a value to each item, such as 2 points for each "2"; 1 point for each "3"; 0 for each "4"; and -1 for each "6." If such a system were used, "5," of course, would be used only to identify isolates, and perhaps this is quite proper since this choice does not seem to fit on the acceptance-rejection continuum.

The Staff's Perception of a Pupil

Like pupils, each staff member sees a pupil somewhat differently. The fact that the various staff members usually observe the child in different situations may account in part for these differences in perception. Other factors which may account for these differences in perception are the teacher's attitude toward the child and the teacher's own interests and needs.

Three techniques which teachers often use to report their perceptions of a child are the anecdotal record, the case conference summary, and the rating sheet. Two factors determine the worth of such reports: the ability to observe accurately and the ability to communicate what is observed. Some observers' reports are colored by personal bias; other observers have difficulty in describing what they observe and interpreting what it meant to them. A good report describes precisely what the child did in a specific situation and separates what is observed from what the observer thought about it.

Teachers may find the following suggestions useful in writing

anecdotal records and in helping colleagues describe pupil behavior in case conferences.

The observer should try to know himself, to understand how his own personal needs and biases influence what he notices and records as significant behavior.

He should describe the setting in which he observed the child.

He should record what the child does and says, in as much detail as possible, relating especially those events which reflect how the child sees himself and his problems. He should try to keep a running account of the events in the order in which they occur. Whenever possible, the observer should also note the actions of others which seem to be related to the child's behavior.

He should observe the child in many different situations—in the classroom, in the lunchroom, in the halls, on the playground, at school parties, in the community, and in the home. He should observe the child at work and at play, with peers, subordinates, and superiors. He should observe the child during different periods of the day.

The observer should describe typical behavior as well as unusual behavior. It is important to know what the child does in a familiar setting as well as what he does in a problem setting.

Most observers find that they need to make some notes while they are observing. Teachers who are carrying on another activity while they observe must make very sketchy notes. However, even sketchy notes help eliminate errors.

Observers should remember that the record of a single incident tells little about the child, but a collection of reports kept over a period of time by several good observers reveals a significant pattern in the child's development.⁷

The Anecdotal Record

Though occasionally the elementary-school teacher will be called upon to write a complete case study of a child, he does not have time to do this for all his pupils. He can and will write brief descriptions of his pupils' behavior in specific situations. These are commonly called anecdotal records.

The 3" × 5" card is a convenient form for the teacher to use in recording these observations. He can record the pupil's name and

⁷ Merle M. Ohlsen, *Guidance: An Introduction*. New York: Harcourt, Brace and Company, 1955, p. 110.



These children enjoy their cooperative study group. They are able to plan their own project, work together, and then present it to the class. Their teacher carefully prepares them so that they do not waste time and so that they can accept the contributions of both able and poor students. These groups can learn to evaluate their own performance as group members and as students. (Photo: Dolores Ahrens.)



Working with small groups on arithmetic, reading, or spelling is essential for good instruction. These groups may not always contain the same children, because every child has different weak spots which need strengthening in more individualized settings. If the teacher gives her undivided attention to this group, she must have well-planned and useful work for the rest of the class. She can also appoint pupil assistants to help out the other children. (Photo: Erie, Pennsylvania, School District.)

describe his behavior on one side of the card and on the other side put his own name, the date, and any interpretations he wishes to make. Such a plan enables others to obtain the basis for interpretations as well as the observer's interpretation, and thus to use the recorded behavior as a basis for their independent judgments.

When special envelopes are pasted on the cumulative folder, the teacher can file these cards with little effort. The cards should be filed in chronological order to facilitate tracing the development of a pupil's problems and his growth following assistance with these problems.

Learning to write good anecdotal records requires practice with real cases and assistance from colleagues in evaluating the reports. Such cooperative study groups may be organized by either the principal or the school guidance committee. In these groups teachers read each other's anecdotes to help each improve his ability to describe behavior and to determine whether description and interpretation are recorded separately. Whenever someone discovers an interpretation which is not supported by descriptions of observed behavior or other facts, he asks the writer to explain what led him to make such a judgment. With this additional information the group may help the author of the anecdote rewrite the anecdote with the unreported information, separating description of behavior and personal characteristics from interpretation.

Most of the members of such study groups soon learn that they need help in improving their anecdotes. This is, indeed, a necessary condition for their professional growth. Only when most of the group recognize that they need help, want help, feel comfortable within the group, and believe that they can improve their work will real growth take place. When a specialist or consultant is present he must be able to help teachers improve their skills without embarrassing them by the way in which he helps them discover and correct mistakes.

Frequently it is a good idea for the chairman to begin the work of the group by showing a film of a child's behavior. This will enable the whole group to observe the same behavior and to write anecdotes on the material they have observed. Such experience makes the members aware that different observers record different material from the same source. With common material it is also easier for each of them

to help others fill in gaps in their reports and supply the supporting data for interpretation.

Anecdotes written by persons outside the group may be used if members are reluctant to expose their own weaknesses. Usually the principal can arrange to exchange such material with other schools and remove all identifying clues. Such material is also frequently published in guidance texts.

The following anecdote can be used to demonstrate how a study group could use such material for in-service education:

Billy (a fifth grader) is a bright boy who is a careless worker. Usually when classmates request help he can explain how to do problems for which he has incorrect answers; but he doesn't seem to care whether his answers are right or wrong. Similarly, he may have a perfect spelling paper and misspell most of those same words in another written assignment that same day. Though he is not a trouble maker he certainly wastes time. Something must be done to improve his study skills.—HENRY SIMPSON

Two basic changes would improve this report substantially: (1) a description of the situation in which the child was observed and (2) separation of facts from opinions. For example, this teacher believes the child is bright, but would an independent observer agree? More facts are needed to answer this question.

What evidence suggests that Billy is bright?

How does the teacher know that he does not care whether he obtains the correct answers?

How does he know that Billy wastes time?

How does he know that Billy needs to improve his study skills?

After questioning Mr. Simpson, the answers to the above questions were obtained and the anecdote was rewritten as follows:

Billy Parker

While my pupils were doing their arithmetic this morning I observed Billy. Though he was able to teach three other pupils how to do their work successfully, he obtained the wrong answers for eleven out of sixteen problems. Similarly, he turned in a written assignment this morning in which he misspelled five words which he spelled correctly on the spelling test that I gave yesterday. In both situations he completed the assign-

ments in approximately half the time which others took to complete them. Further, I noticed that he never re-examined his paper for errors.

An examination of his cumulative folder revealed that Billy is bright (California Test of Mental Maturity IQ 129—test administered in fourth grade; and Revised Stanford Binet IQ 135—test administered several weeks after California test).

As usual, he never disturbed any of his classmates.

Interpretation: I believe Billy needs help in learning to edit his written work and in discovering errors in his arithmetic papers. If I were to observe him while he is doing his arithmetic I believe I could discover why he makes so many mistakes in his work. However, I can't but wonder whether he really wants to do well.

October 17, 1958

HENRY SIMPSON
Fifth-grade Teacher

The Case Conference Summary

We have already listed suggestions which the teacher may use to help his colleagues describe pupil behavior precisely, and in Chapter 19 we will describe the way in which the case conference technique can be used by the school guidance committee. All we shall do here is to list the key questions which should be answered in a case conference summary and explain why the case conference makes a unique contribution to the understanding of a pupil.

The secretary's summary of the case conference should answer the following questions:

1. What do we know about the child? Why do different observers seem to appraise the child's strengths and weaknesses differently? What additional information is needed to clarify the differences in perceptions?
2. Upon what positive elements in the child's life can we develop a program to help him?
3. What can each of us do to help the pupil?

When teachers meet to discuss what they know about a child and to make plans for helping him, they create a friendly, permissive atmosphere which encourages them to speak frankly, enables them to

discover differences in perceptions of a child, and provides a setting in which they can discuss these differences with a minimum of reluctance. In other words, such conferences clarify what is known so that it can be used most effectively in helping the child.

Rating Sheets

Though teachers' anecdotal records and case conference summaries produce very valuable information on some pupils' personal adjustment, other techniques are usually needed to procure periodic evaluation of growth for all pupils. The rating sheet is often used for this purpose.

Where rating sheets have been used most effectively for preserving and communicating information about children, the persons who use the instruments have cooperated in designing them. If, for example, a rating sheet is to be used to evaluate pupil growth for parents (and to preserve a record of that growth in the cumulative folder), then both parents and teachers should be represented on the committee which develops it. They should encourage other parents and teachers to contribute ideas while the instrument is being developed and involve them from time to time in improving it.

In the example we have mentioned the committee should try to determine what the schools are doing for children; poll the parents to determine what they would like to know about their children's growth; formulate questions which parents would like to have answered; and seek the teachers' assistance in selecting questions for which they can secure adequate answers through use of school records and their daily contacts with pupils.

The next step is to formulate multiple-choice answers to these questions. The most successful way to do this, is to have teachers write brief answers to each question for each of his pupils. The common responses to each question become the multiple choice answers for the rating sheet. However, this approach produces useful material only when teachers answer the questions with descriptions of pupil behavior that are as precise as possible rather than with vague, general terms such as "excellent," "good," "average," and "poor."

A sample item will illustrate the type of multiple choice question

which can be drawn up following this procedure. These alternatives represent all the common answers which fourteen teachers gave in answering the question for their pupils.

To what extent does this pupil assume responsibility for completing his assigned tasks?

- ☐ a. Even when he is closely supervised by the teacher, he often fails to complete his assigned tasks.
- ☐ b. He completes his work promptly when closely supervised by the teacher.
- ☐ c. Occasionally, he completes his assigned work and does additional work without waiting for the teacher's encouragement and suggestions.
- ☐ d. Occasionally he completes his assigned work and volunteers to help others.
- ☐ e. Occasionally, he will complete his assigned tasks without close supervision.
- ☐ f. Though he must be closely supervised in most situations, he will complete his work in ___ ___ and pursue special projects in it on his own.
- ☐ g. Usually he completes his assigned tasks and pursues special projects with little teacher supervision.
- ☐ h. Usually he completes his assigned tasks and then either helps classmates or pursues his own special projects with little teacher supervision.
- ☐ i. _____

Whenever a teacher feels that none of the multiple-choice responses describe a child's behavior, he adds his description in the blank space. The responses are labeled alphabetically to encourage raters to select the response which best describes the child rather than worry about deciding whether to give the child a "1" or "2" rating.

Where teachers use such rating sheets to report pupil growth to parents they should prepare duplicate copies so that one may be retained for the cumulative folder. In this way they develop a continuous picture of the child's growth while reporting it to parents. These carbons should, of course, be supplemented in the cumulative folder by carbons of the teacher's letters to parents concerning a child's progress and of his notes on conferences with parents.

Personality Tests

For over a quarter of a century researchers have tried to develop tests which teachers and counselors may use to identify emotionally disturbed children and to trace the cause of the disturbance. Though some of their tests can be used by clinical psychologists to diagnose personality problems and by teachers to help individual pupils under certain conditions, they have not yet produced tests which the elementary-school teacher may use to identify the emotionally disturbed pupils in his class. Nevertheless, the teacher should be familiar with the instruments which are commonly used and with their purposes.

Projective Tests

Projective tests may be used by a trained school psychologist to help a teacher understand why a child behaves as he does and to help him decide who should be referred for special services. The two best-known tests in this category are the *Rorschach*⁸ and the *Thematic Apperception Test*.⁹

The Rorschach test consists of ten ink blots. The person who takes the test is asked to look at them one at a time and tell what he sees, what it makes him think of, and what part or parts of the card he used for each response. From those responses a qualified examiner obtains many important clues concerning the person's mental ability, his ability to organize and use originality, his emotional stability, his special interests, his inner impulses, his sources of satisfaction and pleasure, the way he sees himself, the way he relates to others, how he expresses his emotions, how he attacks his problems, and how hard he drives himself. It can be administered even to kindergarten pupils.

The Thematic Apperception Test (commonly referred to as the TAT) also may be administered to children as young as seven years. Though the test, like the Rorschach, can be administered to groups it is usually given to elementary pupils on an individual basis. The test consists of twenty ambiguous pictures. The pictures used vary

⁸ Hermann Rorschach, *Rorschach's Psychodiagnostic Plates*. New York: Grune and Stratton, 1921-45. English translation, 1949.

⁹ Henry A. Murray, *Thematic Apperception Test Manual*. Cambridge, Mass.: Harvard University Press, 1943.

somewhat depending on the sex and maturity of the person being tested. The examiner shows his client one picture at a time; asks him to make up as dramatic a story as he can for each picture; and suggests that he describe what he thinks led up to the scene shown, what he believes is happening in the picture, and how the story ended. The client's stories—and to some degree his behavior while telling the stories—enables a qualified examiner to make certain judgments concerning the client's needs, ambitions, frustrations, picture of himself, relationships with others, general outlook on life, and method of attacking problems.

Two adaptations of the TAT which are often substituted for the original test in diagnosing elementary-school children's problems are the Children's Apperception Test¹⁰ and The Blacky Pictures.¹¹ Both use pictures of animals rather than people. Many examiners believe that children can identify with animals more easily than they can with the people in the TAT pictures.

The Children's Apperception Test pictures encourage children to tell stories dealing with parent-child, parent-parent, and sibling relationships; they also invite children to discuss problems related to eating, toilet training, and sexual behavior.

The Blacky Pictures also move children to discuss family relationships. However, in addition to requesting children to make TAT type of responses, the examiner asks children certain questions about the dog Blacky's behavior in the various situations with his mother, father, and siblings.

In addition to the fact that most persons do not know how to fake responses to projective tests, Cronbach cites a number of reasons why they are superior to other personality measures:

They stress personality as interrelated whole, rather than a random mixture of isolated traits. They permit every person to have a different final analysis, corresponding to our knowledge that each person is unique. They also tap forces which underlie overt behavior and are otherwise not available, and tendencies which will break forth under future stress though they are not yet apparent. . . .¹²

¹⁰ Leopold Bellak and Sonja Bellak, *Children's Apperception Test*. Gracie Station, New York 28. Leopold and Sonja Bellak, rev. ed., 1953.

¹¹ Gerald S. Blum, *The Blacky Pictures*. New York: The Psychological Corporation, 1950.

¹² Lee J. Cronbach, *Essentials of Psychological Testing*. New York: Harper & Brothers, 1949, p. 450.

The disadvantages of projective methods are marked. They are far from fully objective. Their validity is probably less than perfect, and there is no present way of knowing just where a given analysis is correct. Responses are distorted if subjects know much about the test and how it is used. Projective methods are time-consuming and cannot be used without special training. No satisfactory method for objectively summarizing a group of records has been developed.¹³

Personality Questionnaires

Schools often use personality questionnaires to identify emotionally disturbed pupils. However, Ellis¹⁴ concluded on the basis of his analysis of the clinical validation studies of personality questionnaires that most of these instruments were not very helpful in distinguishing between adjusted and maladjusted pupils. Further, he concluded that they were of even less value in discovering the causes which account for pupils' problems.

What a pupil reveals about himself through his answers to questions in personality questionnaires is dependent on a number of factors: (1) the degree to which he trusts those persons who will see his answers; (2) the degree to which he recognizes what his problems are; (3) his ability to read and understand the questionnaire items; (4) his ability to recognize the similarity between his problems and the ones presented in the questionnaire; and (5) the degree to which he can accept his problems. Obviously, not all pupils who complete personality questionnaires can satisfy all the above conditions.

On the other hand, some of the most important conditions are satisfied when a pupil trusts his teacher or counselor and seeks his assistance, and the teacher or counselor helps him interpret items as he records his answers. Most of these conditions also can be satisfied by showing the pupils the instrument, explaining how its use can help them, permitting each respondent to decide whether he completes the questionnaire, and providing assistance with interpretation as needed. Under these conditions a pupil can identify most of the problems with which he feels he needs help. However, it is not the number but the seriousness of the problems which should concern

¹³ *Ibid.*, pp. 450-51.

¹⁴ Albert Ellis, "The Validity of Personality Questionnaires," *Psychological Bulletin* 43:385-440 (September 1940).

the teacher, and it is very doubtful whether this can be detected by most of these instruments. Perhaps, therefore, the teacher should give primary attention to helping his pupils cope with their problems and not be too concerned about either the number of problems checked or the summary shown on the profile sheets.

Four questionnaires often used by elementary-school teachers are described here:

The *California Test of Personality*¹⁵ (grades K-3, 4-8, 7-10, 9-16, adults) consists of two parts: one concerned with self-reliance, sense of personal worth, sense of personal freedom, feeling of belonging, withdrawing tendencies, and nervous symptoms; and the other with social standards, social skills, antisocial tendencies, family relations, school relations, and community relations. Pupils check either a "yes" or "no" in answering such questions as:

"Do you sometimes take part in planning or carrying on a party?"

"Are you a member of a group who does interesting things?"

"Does it seem to you that most of your friends can do things better than you can?"

"Is someone at home usually helpful to you when you are in trouble?"

The manual suggests that scores on subtests be used to diagnose pupils' problems. However, perhaps those who use the test should evaluate critically the evidence submitted in the test manual before following the test authors' advice on this point.

The *Mental Health Analysis*¹⁶ (grades 4-8, 7-10, 9-16, and adults) is a revision of the first edition of the *California Test of Personality*. In this edition the authors increased the number of items and re-distributed them to make the purpose of each less obvious. The questions listed below are typical:

"Can you do most of the things you try?"

"Is it hard to find friends who will keep your secrets?"

"Do you often feel tired before noon?"

"Is it hard to talk to people as soon as you meet them?"

¹⁵ Louis P. Thorpe, Willis W. Clark, and Ernest W. Tiggs, *California Test of Personality*. Los Angeles: California Test Bureau, 1939-1943, 1953.

¹⁶ Louis P. Thorpe and Willis W. Clark, *Mental Health Analysis*. Los Angeles: California Test Bureau, 1946.

Although the manual is substantially improved in this edition, the authors' suggestions for using the results for diagnosis should be adopted very cautiously, if at all.

The *SRA Junior Inventory*¹⁷ (grades 4-8) classifies boys' and girls' problems into four general categories: health, home, school, and relationships with others. In taking the test, a pupil checks only those statements which are problems for him. Sample items are listed below:

- "My head hurts a lot."
- "I have no pep."
- "People don't like me very much."
- "I can't read very well."
- "I'm afraid of tests."
- "I have bad dreams."

These and the other items included in the questionnaire were obtained from pupils' own statements concerning their problems.

*The Wishing Well*¹⁸ (grades 4-7) was developed to help teachers determine the extent to which children are aware of the following needs: feeling of belonging, a sense of achievement, economic security, freedom from fears, love and affection, freedom from guilt, participation in making decisions, and integration of their attitudes, beliefs, and values. From items like those listed below pupils select those which express their feelings:

- "I wish I did not have to play by myself so much."
- "I wish I would receive praise for what I do."
- "I wish I did not have dreams that frightened me."
- "I wish my parents liked me as much as they did when I was younger."
- "I wish I had never cheated."
- "I wish others did not try to do my planning for me."

In addition to helping a teacher discover what his pupils' needs are in order that he may try to help them satisfy their needs, such an instrument also may help him discover unmet needs which may interfere with learning or even account for misbehavior.

¹⁷ H. H. Remmers and R. H. Bauernfeind, *SRA Junior Inventory* (Chicago: Science Research Associates, 1951).

¹⁸ Evaluation Division, Bureau of Educational Research, *The Wishing Well* (Columbus: Ohio State University Press, 1945) 51.

Thus it seems that teachers can make only limited use of tests in screening for emotionally disturbed children. Those instruments which can be used to identify maladjusted children and diagnose their problems require special clinical skills which teachers do not—and should not be expected to—possess. However, teachers can use the nontest techniques described earlier in this chapter in conjunction with questionnaires of the type described above to identify pupils who need help.

The Cumulative Record

If we accept the idea that every experience affects to some degree a child's personal adjustment, then we see at once why schools should maintain a carefully designed and well-organized cumulative record of each child's growth. Such a cumulative folder can be developed only when the staff senses the need for the record and they decide cooperatively what will be included in it and how it will be organized. Best results are obtained when these decisions are made in conjunction with study of their own pupils. Such experiences can be provided under the leadership of a school guidance committee.

In schools where no well-conceived folder has been developed, staff members may use questions like those listed below to guide their thinking while developing a cumulative record:

1. What are our primary objectives? How do we want to influence our pupils' growth and development?
2. For what questions do we need answers to work with our pupils most effectively?
3. Are there among the questions any for which only one or two of us need answers? If there are such questions why cannot these data be collected and maintained by them while they are working with the pupils?
4. How can we obtain the information that we need to answer our questions?

The staff must consider both test and nontest techniques, and they will be concerned with appraising intellectual development and

school progress as well as personal adjustment. At this point in their planning they will frequently be able to obtain valuable assistance from a guidance consultant in the state department of public instruction or a teacher education institution.

After they have selected the techniques to collect the information, they must ask themselves whether they have the time to collect and use the information. Many school staffs make the mistake of devoting so much time to collecting data that there is little or none left to use them in helping pupils. After considering this point it often appears wise to reserve the collection of certain data for special cases, to insure that there will be enough time for helping pupils.

5. Do we have at least one person on our staff who is qualified to administer and interpret every instrument which we selected to answer our questions?
6. Have we given enough attention to the study of the normal child? If we limit our child study to items selected above, will we obtain an adequate picture of his growth as he moves through school?
7. Have we given adequate attention to assigning responsibility for collecting the various types of information selected?
8. Finally, how can these data be organized in our cumulative record for most effective use?

The above approach not only provides the staff with the information it needs to aid pupils most effectively, but also provides a method for evaluating and improving the cumulative record. In addition, it provides in-service education on child-study techniques and encourages cooperative study of pupils.

What type of cumulative folder is most functional? Most elementary-school teachers prefer to use a 9" × 12" manila folder for each pupil. Standard 8½" × 11½" papers can be filed in them easily, they fit into most school files, and essential material can be filed and located readily when its contents are carefully planned and organized. To minimize clerical work, data should be collected on a form which can be filed in the folder (e.g., anecdotes should be collected on cards which can be easily filed in an envelope attached to the inside of the folder). Items which may be recorded on the outside of the folder are the pupil's name, the parent's name, home address, home telephone number, the pupil's semiannual attendance

record, the names and locations of the schools previously attended, school grades, and test results.

The first entry in the cumulative folder should be made following a pupil-parent-teacher conference when the child first enrolls in the school. At that time the teacher should supplement the pupil-background questionnaire with other relevant information provided by the parent and child on the child's infancy and early childhood experiences. As the child matures, teachers often wish to supplement these data with other shorter background questionnaires. Many schools also require a medical and dental examination prior to school enrollment.

Since we have a mobile population, schools are constantly enrolling pupils who transfer from other schools. When a pupil transfers from another school within the same school system his cumulative folder should be transferred with him. When he transfers from another system this is rarely done because the former school staff feels that later they too may be expected to describe the pupil. Furthermore, school records vary considerably. Schools will usually therefore do better to mimeograph a form upon which the former principal may report the information which the staff members in the new school feel they need most. With such a form and a convincing covering letter which explains why it is vital to obtain the data requested, the information is usually promptly forwarded. However, such requests must be reasonable. If these questionnaires are not limited to the most essential data, they impose such a burden of clerical work that poor returns result.

Where should the cumulative folder be kept? Since most elementary schools have self-contained classrooms today, we recommend that the cumulative folder be filed in the classroom and maintained by the classroom teacher. In addition to securing the information which the faculty has assigned to him as his responsibility in developing a cumulative record, he should periodically screen folders for the purpose of eliminating materials which are no longer needed. For example, many folders contain old test booklets whose scores are already recorded on the folder and whose data are too outdated to be useful for remedial instruction.

During this process of eliminating nonessential materials the

classroom teacher usually finds one or two folders which are becoming unwieldy because of the amount of material filed in them. This can be remedied by classifying the material into problem areas and then summarizing the information in terms of these areas. If he uses all the data available on each problem to trace the pupils' successes and failures in solving the problem, the teacher will not only improve the condition of the folder, but also make its contents more meaningful. When he makes such a summary, the teacher frequently discovers the need for obtaining more information on some specific problems. Case conferences may be used to obtain such data, or at least help establish where the information may be found. Thus even the cumulative record may determine whether its contents are used to help teachers understand their pupils and, in turn, to help pupils make the best possible adjustment.

DISCUSSION QUESTIONS

1. What have measurement specialists tried to accomplish with personality tests?
2. What are the chief advantages of projective tests? Which of the disadvantages of projective tests should most concern elementary-school teachers?
3. What elements determine the degree to which pupils' responses on personality questionnaires are accurate?
4. Outline criteria which may be used to evaluate a school's method of keeping cumulative records.
5. What factors must be considered in appraising personal adjustment? Why are not all those who exhibit deviate behavior deviates?
6. What important elements seem to determine the accuracy of information obtained from pupils on self-reporting devices?
7. What can a teacher learn from his pupils' picture stories? What is the primary advantage of using these stories to become acquainted with the child's perception of himself?
8. Why would a teacher use sociometric methods to appraise personal adjustment?
9. Why are special items needed to discriminate between the rejected and the isolates?
10. What are the characteristics of a good anecdotal record?

11. Why do teachers often disagree in appraising a pupil's behavior?
12. How can teachers improve the quality of their anecdotes?
13. Under what circumstances may rating sheets be used effectively to obtain periodic evaluation of a pupil's growth?

SUGGESTED READINGS

1. Blair, Glenn M., Jones, R. Stewart, and Simpson, Ray H., *Educational Psychology*. New York: The Macmillan Company, 1954. We recommend the following chapters: 15, "Promoting the Personal and Social Adjustment of Pupils"; 16, "Studying the Individual Child"; and 22, "Personal and Emotional Adjustment of the Teacher," from this interesting book which was written to help teachers understand their pupils and the ways in which they learn. Perhaps you should take special note of why children from the lower classes are problems to teachers.
2. Buross, Oscar K., *The Fourth Mental Measurements Yearbook*. Highland Park, N. J.: Gryphon Press, 1953. Although this title suggests that only certain types of tests would be described in this volume, all personality and character, commercial, vocational, educational, and mental tests which have been published in the English language are reviewed in either it or one of its earlier editions. Each successive yearbook supplements earlier volumes reporting new research on old tests and describing new instruments. It is a very valuable professional reference for school libraries.
3. Cronbach, Lee J., *Educational Psychology*. New York: Harcourt, Brace and Co., 1954. This well-written book for teachers includes two chapters which are especially pertinent for our study here: 5, "Differences in Readiness: Some Illustrative Cases"; and 6, "Assessing Readiness: Personality and Motivation." These chapters answer such questions as: (1) What elements in Clark's life helped him adjust to a physical handicap? (2) What special problems did Olive face? To what extent did the school program contribute to her problems? (3) How does social class membership affect a pupil's school life? (4) What information does a teacher need to identify the pupils who are not doing as well as they should?
4. Cronbach, Lee J., *Essentials of Psychological Testing*. New York: Harper & Brothers, 1949. This book is one of the basic textbooks for guidance workers. For appraisal of pupil adjustment we recommend Chapters 14, "Self-Report Techniques: Personality"; and 20, "Projective Techniques."

5. Froehlich, Clifford P., and Darley, John G., *Studying Students*. Chicago: Science Research Associates, 1952. This is a very useful text, which is easily read. We recommend the following chapters: 4, "The Nature of Observation"; 5, "Recording Observations"; and 14, "Appraising Personal Adjustment."
6. Prescott, Daniel A., *The Child in the Educative Process*. New York: McGraw-Hill, 1957. This book is based upon the author's experiences in working with hundreds of teachers in an effort to help them to understand their pupils better. Though most beginning teachers could profit from reading the entire book, we recommend especially Part II, which analyzes the knowledge and skills a teacher needs to understand his pupils. Case study material are used wisely to make these six chapters very helpful to teachers.
7. Remmers, H. H. and Gage, N. L., *Educational Measurement and Evaluation*, New York: Harper & Brothers, 1943, 1955. We recommend chapters 11, "Emotional and Social Adjustment," and 12, "Evaluating Emotional and Social Adjustment." However, teachers may wish to read additional chapters in this book because the authors not only explain how to measure a given human characteristic, but they precede the discussion of each of these topics with background information on the nature of that characteristic. For example, they define adjustment, describe the characteristics of the maladjusted child, discuss common reasons for poor adjustment, and explain how children act when they are hurt before they discuss methods for appraising adjustment.
8. Torgerson, T. L., and Adams, G. S., *Measurement and Evaluation for the Elementary School Teacher*. New York: Dryden Press, 1954. This book gives excellent treatment of the subject for elementary teachers and also treats the theoretical aspects for each topic. The following chapters are pertinent here: 6, "The Measurement and Evaluation of Personal-Social Adjustment: 'Theoretical Aspects'"; 7, "The Measurement and Evaluation of Personal-Social Adjustment: Self-Appraisal and Appraisal By Peers"; and 8, "The Measurement and Evaluation of Personal-Social Adjustment; Other Appraisal Techniques."

SUGGESTED FILMS

1. *Character Neurosis* (60 minutes). New York: New York University, 1947. This film shows how a child develops serious problems living in her home.
 - 1.1 Why wasn't Mary's problem detected earlier?
 - 1.2 What did she do that suggested the need for special therapy?

2. *Children's Emotions* (22 minutes). New York: McGraw-Hill, 1950. The child's basic emotions and the way in which parents' behavior influences a child's personal adjustment are presented in this film.
 - 2.1 What factors contributed to a child's happiness?
 - 2.2 What experiences taught fear, anger, and jealousy?
3. *Fears of Children* (30 minutes). International Film Bureau, 1951. The ways in which an overprotective mother and stern father affect the development of a five-year-old boy are portrayed in this film.
 - 3.1 How did the parents learn to cope with their son's needs more effectively?
4. *This is Robert* (50 minutes). New York: New York University, 1942. Growing up as an only child with four adults created certain problems for Robert. The film traces the development of these problems and shows how Robert learned to deal with social problems during nursery school, kindergarten, and first grade.
 - 4.1 Use the suggestions given in this chapter for describing behavior and write at least three anecdotes on Robert's behavior.
 - 4.1.1 How did your description of Robert's behavior compare with those of your classmates?
 - 4.1.2 Did you describe different incidents? How are these differences related to your own needs and interests?
 - 4.2 Upon what positive elements in Robert's life could you plan a program to help him?
 - 4.3 What factors in Robert's home life contributed to his aggressive behavior?
5. *Understanding Children's Play* (10 minutes). New York: New York University and Educational Film Library Association, 1948. This film may be used to teach adults how to study pupils by observing them play.
 - 5.1 What special factors should teachers note when observing children's play?

Appraising Pupils' Mental Growth and School Achievement

EVERY GOOD TEACHER is concerned about the mental growth and school achievement of his pupils. This interest in youth is supported by a great national tradition of giving every individual a chance to develop his own abilities and aptitudes and use them in the vocation of his choice.

Nevertheless, today the United States faces a serious shortage of college-educated personnel.¹ Business, industry, educational institutions, and the professions are competing for their services. Although the number of college graduates is inadequate to meet the demands of society, the nation does have an adequate supply of youth who are capable of earning college degrees. The National Manpower Council described the situation as follows: "Today, less than half of those capable of acquiring a college degree enter college. About two fifths

¹ David Wolfe, *America's Resources of Specialized Talent* (New York: Harper & Brothers, 1954).

of those who start college—many with superior ability—do not graduate. For every high school graduate who eventually earns a doctoral degree, there are twenty-five others who have the intellectual ability to acquire that degree but do not.”²

The low birth rates during the depression period account in part for this manpower shortage. Another factor is the recent developments in technology which have increased the demands for college-educated personnel. However, neither of these reasons accounts for the fact so many gifted youth fail to seek education beyond high school. Most of the reasons why these gifted youth failed to earn college degrees reflect on the homes and schools: these youth never developed the scholar's love of learning; they were not challenged in school; higher education was not valued by most of their family and friends; they did not set for themselves vocational goals which required a college degree; many of them probably never realized that they were gifted, and in many cases their teachers did not realize it either; many of them believed that they lacked the financial resources to attend college.

Actually, the proportion of high-school graduates who attend college has continued to increase. The committee which prepared the fifty-seventh yearbook of the National Society for Study of Education raised a similar question with reference to the public school. “Why does the system not produce more highly literate and professionally trained people to meet the demands for engineers, research scientists, and school and college teachers?” They answered their own question as follows: “Although one could answer with truth that the American educational system today does produce a higher proportion and also a greater absolute number of such people than it has ever done before, and than any other nation has ever done, yet many educators are loath to make this kind of answer because they feel that American education does not do as good a job with gifted children as it might and should.” The fact that our schools are doing better than others offers little comfort when we realize that our schools are not doing as well as they could. The schools should capitalize on national

² National Manpower Council. *A Policy for Scientific and Professional Manpower. A Statement by the Council, Facts and Issues*. Prepared by the Research Staff. New York: Columbia University Press, 1955, p. 83.

³ *Education for the Gifted, Part II, 57th Yearbook of the National Society for Study of Education*. Chicago: University of Chicago Press, 1955.

interest in the gifted and on recent federal legislation to improve school experiences for the gifted.⁴

Every teacher can help improve education for the gifted by improving his methods for identifying them,⁵ by helping the gifted pupil and his parents to understand the significance of his gifts, and by providing him with challenging experiences which will stimulate maximum development of his abilities and talents. The elementary-school teacher also should provide secondary-school teachers with information about the gifted pupil which will encourage them to continue to challenge him. This teaching program should be supported by an effective counseling program to insure that the gifted child, his teachers, and his parents obtain the professional assistance they need to provide worthwhile educational experiences for him and to help him make appropriate educational and vocational plans.

But, however important the gifted child may be, our nation is committed to educating all the children of all the people; and the success of our system of government is dependent upon the schools' success in teaching its citizens how to analyze the issues and to vote on them intelligently. In part at least our very way of life is dependent upon the success of this great experiment in mass education.

In most schools there are some pupils of every intellectual level who are not working up to capacity. This is a serious situation which must be corrected. It requires, in addition to good teaching skills, proficiency on the part of the teacher in appraising pupils' mental ability, intellectual growth, and school achievement, and in diagnosing the learning problems of these underachievers. The teacher also uses these proficiencies in adapting his teaching to the various learning levels of the entire class, in selecting teaching materials, and in diagnosing and treating all their learning problems.

Many of these data can be obtained by studying performance on mental tests and achievement tests. However, not all of a teacher's questions in this general area can be answered by the study of test results alone. Additional information can and must be obtained by *observing a pupil while he is doing his work, by examining his written work, by reading other teachers' anecdotes, by reviewing his school*

⁴ Chapter 16 treats this topic more fully.

⁵ Jack Kough and Robert DeHahn, *Teachers' Guidance Handbook: Identifying Children with Special Needs* (Chicago: Science Research Associates, 1955).

history in the cumulative folder, and by enlisting colleagues to aid in case conferences.⁶ This chapter is designed to help the elementary-school teacher to select tests and use them in conjunction with non-test techniques to appraise his pupils' growth.

Guides for Selecting Tests

Every test should be selected with great care, and no test which teachers are expected to use and to interpret should be given until they understand its contribution to understanding their pupils and are qualified to interpret it to pupils and parents. Furthermore, they must be willing and able to explain to pupils why the tests are given and to answer pupils' questions about the tests prior to administering them. When teachers do this, they help create a psychological climate which enables pupils to perform effectively and creates in them readiness to accept test results. Failure to do this often makes pupils unnecessarily anxious and resentful.

Although teachers should decide what information they need to understand their pupils, they may profit from a specialist's assistance in selecting the specific test which will best meet their needs. When a school district employs no one with special professional preparation in tests and measurements, they usually can obtain the assistance of a qualified person from a teacher-education institution or the state department of public instruction. Very helpful information also may be obtained from the *Mental Measurement Yearbook*,⁷ which reviews all achievement and mental tests published in the English language.

Even before the staff seeks the assistance of a specialist or reads test reviews, they must obtain adequate answers to the following questions (and this would be true for tests other than achievement and mental tests):

What do we want to know about our pupils?

What do we already know about our pupils with reference to

⁶ See the section on "The Guidance Committee" in Chapter 19.

⁷ Oscar K. Buros, *The Fourth Mental Measurement Yearbook* Highland Park, N. J. Gryphon Press, 1955. This yearbook supplements the three earlier ones by reviewing new research, on old tests and by evaluating new tests.

this characteristic? What would new test data add? What, if any, new nontest data are needed?

How much staff time and money are available to the staff for this purpose?

From what socioeconomic level do most of our pupils come?

With these four major questions answered, the staff should be ready to seek the assistance of a specialist, if necessary, and to study test reviews. Usually they will find several quite adequate tests; each of these should be carefully scrutinized on the basis of the following questions:

What does the author claim that his test measures? Does it actually measure what he claims it does? Upon what research evidence does he support his claims?

Authors of mental tests often defend the validity of their tests by demonstrating that the tests show high correlation (sometimes as high as .80) with a well-established test such as the Revised Stanford-Binet. They also may attempt to prove that their tests can be used to predict school achievement. In either case they can obtain a spuriously high coefficient by selecting subjects which make the test look better than it really is. For example, using subjects over a wider age range to compute validity coefficients tends to produce such results.

Is the test reliable? Does it measure consistently whatever it measures?

Except when pupils have had an opportunity to increase their knowledge or problem-solving ability between testing periods, pupils should earn essentially the same scores and be ranked in the same order upon repeated testing. Since most pupils learn something by taking the test, and usually learn something between testing periods, testing specialists have devised statistical techniques for evaluating test reliability which does not require repeated testing. When these techniques are used to appraise the better tests, reliability coefficients of .80 to .90 are usually obtained.

What pupils did the author of the test use in developing norms for the test?

Only when the teacher knows what pupils were used in developing the norms for the test, can he interpret the test results intelligently. Otherwise, he does not know with whom he is comparing his pupils. Although most test manuals state that a carefully selected sample was used to develop national norms, far too many test authors fail to state precisely how their sample was chosen; hence, in such cases, the teacher will not know for sure whether or not the norms are truly representative of the national population. Since the teacher should give special consideration to validity, reliability, and the way in which norms were developed, we shall comment on these three when we describe some of the better tests used in the elementary schools.

Was the test designed for pupils like those enrolled in our school?

Although most mental tests have a cultural bias which favors children from upper- and middle-class homes, some tests penalize children from lower-class homes more than other tests do. Those who teach in schools which enroll children from the lower classes should investigate this point with care before selecting a mental test. This can be done by examining the test terms and by studying test reviews.

In selecting achievement tests the teacher also should ask himself these questions: (1) Have my pupils had a chance to learn this material? (2) Should this material be emphasized? (3) Is the test author's point of view consistent with the point of view stressed in the school curriculum? (4) Are its items constructed and arranged to facilitate a teacher's use of results in diagnosing learning problems?

How long does it take to administer and score the test? Can it be machine scored? What prior arrangements must be made for machine scoring?

Many of the new tests can be scored quickly with the aid of special scoring devices. By repeated use of test booklets, schools also may save part, and in many cases most, of the expense of machine scoring. Whenever possible tests should be machine scored to reduce the clerical work for teachers.

Mental Tests

Binet and Simon developed the first mental test in 1905; it was designed to discriminate between unmotivated normal children and feeble-minded children in the Paris schools. They believed that there were certain mental activities such as reasoning, thinking along purposeful lines, ability to adapt readily, and ability to criticize one's self which gradually increased as the child matured. Consequently, they constructed test items which discriminated between children of different consecutive chronological ages.

Today most of the authors of mental tests are still seeking tasks which discriminate between children of different consecutive chronological ages. Once they have identified an adequate number of such tasks, they construct items which measure pupils' proficiency in solving problems that involve these tasks.

With increased awareness of the environmental influence on ability to do well on mental tests, authors have tried to develop test items which are influenced as little as possible by cultural differences. This requires that every test item must be scrutinized to determine whether pupils from the various social classes would have equal opportunity to become acquainted with the words, ideas, and drawings used in the item. Unfortunately, to date no authors have been completely successful in this effort.

Most of the mental tests administered in the elementary schools today are group tests which are primarily concerned with measuring booklearning ability; and such tests do appraise most pupils' mental ability quite satisfactorily. However, they usually underestimate the learning potential of those pupils who are reared in homes which offer limited cultural and intellectual stimulation. Children who are poor readers also tend to be handicapped by such tests.

When a teacher believes that a child has better mental ability than his test scores suggest, he should refer him to a psychologist for individual testing. Of course, a verbal handicap may depress a pupil's score on an individual test too, but usually not as much as it does on a group test. Furthermore, if the child does significantly better on some items than others, the examiner is qualified to interpret the meaning of those differences.

Where the school system employs no qualified examiner, and the teacher cannot arrange to refer a child to either a community agency or a nearby college, the teacher can observe the child in a variety of situations and enlist the aid of his colleagues in appraising the child's ability to solve problems which involve little use of verbal symbols. For example, they can select pupils whom they believe have comparable ability to the child's and are not handicapped on group tests and compare this particular child's scores on the nonverbal sections of the test with the other pupils' scores on the same section. They also can secure puzzles which are new to all the children and compare his trials and solutions with the others' performances. If he performs on the nonverbal tasks as well or better than the other children, this tends to confirm the teacher's hunch that he has better ability than the verbal tests indicate.

On the other hand, it should be noted that factors which tend to depress a pupil's scores on mental tests also influence his school success. Not only do they make it more difficult for him to learn as easily as he should, but they probably prevent him from revealing what he knows on achievement tests. Even though this is the case, it is important to differentiate between those who are doing the best they can when they function at a given level and those who could do much better work. Those who fall in the latter category need remedial instruction.

Mental Test Scores

Most manuals for mental tests provide some system for converting raw test scores into mental age (MA), and thereby provide the teacher with an estimate of the age level at which each child functions in solving problems. Along with his MA, the teacher should record the child's chronological age (CA), his raw score, his school grade, the date of testing, the name of the test, the form of the test, and the norm group used (e.g. test norms, local norms, or both). In most instances the teacher also consults a table in the test manual to obtain an intelligence quotient (IQ) for each pupil.

When the test manual does not provide the information for converting MA's into IQ's the teacher can compute the IQ's by

dividing the child's MA by his CA and multiplying the quotient by 100: $IQ = \frac{(\text{MA in months})}{(\text{CA in months})} \times 100$. For example, a child who is 8 years and 4 months (100 months) old and has a mental age of 7 years and 11 months (95 months) has an IQ of 95 ($IQ = \frac{95}{100} \times 100$).

In the typical elementary school approximately half (the middle 50 percent) of the pupils' IQ scores fall between 90 and 110.

Why should a teacher record both MA's and IQ's? By recording each child's IQ the teacher obtains a general estimate of the child's learning level. The MA, on the other hand, provides him with useful information for appraising each child's mental growth pattern and for adapting instruction to each one's needs. For example, here are the MA's of three children, each of whom have CA's of 8-0: 6-0, 8-0, and 10-0 (their IQ's are 75, 100, and 125). If we assume that the IQ's remained constant (as many do), then at age 12-0 their MA's would be 9-0, 12-0, and 15-0. The difference in learning ability between the brightest and dullest child changed from four to six years—a difference which would be considered in planning instruction. This example also demonstrates how MA's can be used to identify those pupils who are gradually pulling away from their classmates in learning power and those who are falling farther and farther behind.

Mental growth patterns can be used with confidence to appraise an individual's mental growth only when the various MA's are obtained by administering the same test series. Even then a pupil's physical and emotional condition while taking the test may have considerable influence upon his scores. When a pupil is administered different tests his scores can be either raised or depressed by the differences in test questions and by the general ability level of pupils who were selected for the purpose of building test norms.

At best a mental test score is only an approximate measure of a child's mental ability; but because it does provide the teacher with a number he is tempted to accept it at face value. This often leads him to assume that one child has better learning power than another, when actually the differences in test scores may be accounted for by chance. Although the teacher can use MA's to study each pupil's mental growth pattern and IQ's to identify the pupils whose scores

fall in the two extremes (below 75 and above 125) of the distribution, perhaps for most pupils he should not rely on mental test scores to do anything more than to divide his pupils into three groups: (1) those who learn with greater difficulty than most (the bottom 25 percent); (2) those who learn as easily as most (the middle 50 percent); and (3) those who learn more easily than most (the top 25 percent). Since pupils and parents also tend to accept differences in test scores which can be accounted for by chance, as real differences in learning power, teachers would do well to interpret mental test scores for them in terms of the three general classifications described above.

Group Mental Tests

There are many satisfactory group mental tests used in the schools today; however, only five of the better tests are reviewed here to help teachers to become acquainted with instruments which they may use to study their pupils. Each of these tests is described briefly, including comments on validity, reliability, and the norm groups.

CALIFORNIA TEST OF MENTAL MATURITY⁸

(GRADES K-1, 1-3, 4-8, 7-10, AND 9-ADULT)

The total time required for administering the test is 90 minutes, but the test can be administered in two parts (language and non-language), each requiring 45 minutes. The test for each maturity level consists of these parts: memory, spatial relationships, logical reasoning, numerical reasoning, and vocabulary. Profile sheets are provided to help the teacher appraise differences in pupils' performance. However, each of these part-scores is based on too few items to be accepted at face value.

The manual provides, for each level, a table for converting language, nonlanguage and total raw scores into IQ's, MA's, and percentile ranks. Differences in language and nonlanguage scores deserve careful study. Whenever a pupil earns a significantly higher score on the nonlanguage score than on the language score, the teacher should

⁸ Elizabeth T. Sullivan, Willis W. Clark, and Ernest W. Tiegs, *California Test of Mental Maturity*. Los Angeles: California Test Bureau, 1936, 1951.

seek additional data to determine whether the pupil has a reading disability.

With reference to the norm group, the data provided in the manual suggest that the sample was adequate insofar as size is concerned. However, one needs more information than is provided in the manual to appraise the degree to which it is representative of the nation's children.

Reliability coefficients reported in the manual are all around .90. The authors also reported correlation coefficients of .88 with Stanford-Binet as an indication of the test's validity. Unfortunately, they did not describe the age-range of the sample which was used in obtaining this validity coefficient.

CHICAGO TEST OF PRIMARY ABILITIES⁹ (DESIGNED FOR AGES 11-17)

This test appraises pupils' mental abilities in terms of six of the eight factors which the authors identified in their research: verbal meaning, work fluency, reasoning, memory, number, and space. From the manual the teacher can obtain the information to convert raw scores on each of the six factors into percentile ranks and IQ's. The total time required for administration is four hours.

Although the manual provides inadequate information on the norm group, norms are probably based on a cross section of the pupils enrolled in Chicago schools. In the manual the authors report a reliability coefficient of .95 and offer adequate evidence of validity in terms of their criterion.

KUHLMAN-ANDERSON INTELLIGENCE TESTS¹⁰ (GRADES K-12)

The total battery consists of 39 tests which have been arranged in order of difficulty on the basis of the median age of children who passed half or more of the trials. This feature of the test enables a teacher to administer a series of the tests on an individual basis to

⁹ L. L. Thurstone and Thelma Gwinn Thurstone, *Chicago Tests of Primary Mental Abilities*. Chicago: Science Research Associates, 1935-1941.

¹⁰ F. Kuhlman and Rose G. Anderson, *Kuhlman-Anderson Intelligence Tests*. Princeton, N. J.: Personnel Press, Inc. [formerly published by Educational Test Bureau], 1927-1952.

appraise a child's ability to solve problems over a wide range of difficulty levels.

Each of the nine test booklets contains a few of the tests from both the higher and lower booklets. A child's MA is the median of the MA's earned by him. Most teachers will be able to administer the test to their pupils in approximately a half hour.

The test was designed to discriminate between children with small differences in mental development, and in that sense it has built-in validity. Recent studies quoted in the latest manual also suggest that its scores correlate highly with over-all school achievement as measured by achievement test batteries. Reliability coefficients vary from .85 to .95.

Except for the new research data on validity and reliability, and the new improved manual, the latest (sixth) edition is essentially the same as the fifth. The method for selecting school systems for establishing norms is commendable. However, the authors certainly do not prove that the pupils selected are representative of the nation's children.

KUHLMAN-FINCH INTELLIGENCE TESTS¹¹

This new battery consists of eight tests, including one test for each of the six elementary grades, one for the junior high-school level, and one for senior high-school level. Except for the senior high-school test, which requires 30 minutes, the others each require 25 minutes. There is no duplication of content among the eight Kuhlman-Finch tests. Several other important factors should be noted: cultural and sex differences seem to be minimized in the test items; no verbal subtest is introduced until the third-grade test and then only one such test is used; tests for older children contain only two verbal subtests; and the tests seem to emphasize power rather than speed.

After the teacher records the raw scores on the profile sheet, he selects the median score, which in turn he may use to obtain MA's, IQ's, and percentile ranks. Commendable techniques were used in selecting schools for building test norms. Furthermore, the size of the

¹¹ F. H. Finch, *Kuhlman-Finch Intelligence Tests*. Minneapolis, Minn.: American Guidance Services, Inc. [formerly published by Educational Test Bureau], 1953.

sample and the number of states represented appears to be quite adequate.

Reliability coefficients for a single year-age-range are approximately .90. The author defines test validity in terms of the test's ability to discriminate between abilities at successive ages. Since test items were selected on this basis, the author defends its validity in terms of built-in validity.

OTIS SELF-ADMINISTERING TEST OF MENTAL ABILITY¹²

(GRADES 4-9, 9-12, COLLEGE, AND ADULT)

About 30 minutes should be allowed for administering this test to elementary-school pupils.

Although this is an old test it is still widely used. It is claimed to have built-in validity. From a large pool of items the author selected only those items which discriminated between superior young pupils and older inferior pupils. Most of its coefficients of reliability for the various levels of tests are at least .90.

Apparently its norms are based upon a large sample representing the various sections of the United States. The manual provides the necessary information for converting raw scores into MA's.

Though published later, the *Otis Quick-Scoring Test of Mental Ability*¹³ is essentially the same test.

Individual Mental Tests

When an elementary-school teacher refers a child to a qualified school psychologist for appraisal of mental ability, it is almost certain that he will administer either a Binet¹⁴ or a Children's Wechsler.¹⁵ Both require theoretical training in psychology and supervised practice in giving and scoring the test. In addition to being able to put

¹² Arthur S. Otis, *Otis Self Administering Test of Mental Ability*. Yonkers, N. Y.: World Book Co., 1922.

¹³ Arthur S. Otis, *Otis Quick Scoring Test of Mental Ability*. Yonkers, N. Y.: World Book Co., 1938.

¹⁴ L. M. Terman and M. A. Merrill, *Revised Stanford Binet Scale*. Boston, Mass.: Houghton-Mifflin, 1937.

¹⁵ David Wechsler, *Wechsler Intelligence Scale of Children*. New York: The Psychological Corporation, 1949.

the child at ease and identify clues for the appraisal of personal adjustment, the examiner must know precisely how to present the problems, how far he can go in answering a pupil's questions and clarifying the pupil's answers, and how to score the pupil's answers.

Both tests were constructed with great care, and the pupils who were used in developing norms were carefully selected. Coefficients of reliability presented for each test are satisfactory: Binet .85 to .95 and Wechsler .92 to .95. Two comparable forms have been constructed for each test; therefore children can be retested with another form of the same test.

The Stanford-Binet was first published in 1916 and revised in 1937 on the basis of numerous research studies. It has frequently been used as the test against which others have been appraised. This in itself reflects the regard in which the test is held. Its authors defend its validity in terms of the method used to select its items: the degree to which each item discriminated between children of successive ages determined whether it was included in the test. Though it can be administered to persons two years of age and older, scores obtained on children under five tend to be less reliable than those obtained for older pupils. Furthermore, though it provides a better measure of mental ability than group tests do for those who are handicapped by reading disabilities and limited cultural background, the Stanford-Binet does include verbal items which probably depress such pupils' scores.

The Wechsler Intelligence Scale for Children is a relatively new test. However, it is a downward extension of the well-established Wechsler-Bellevue Intelligence Scale.¹⁶ While Wechsler criticized the Stanford-Binet because its authors used test materials for adults that had been developed for children, perhaps he too could be criticized for using test materials originally developed for adults in testing children. Nevertheless, the Children's Wechsler is a very promising test, and its author has developed special directions for administering and scoring it. Instead of providing the information for converting raw scores into MA's, Wechsler provides the necessary information for obtaining IQ's for each age level.

¹⁶ David Wechsler, *Wechsler-Bellevue Intelligence Scale*. New York: The Psychological Corporation, 1939, 1946.

Standardized Achievement Tests

Most teachers want to evaluate their pupil's growth in terms of each child's capacity to profit from school experiences. We have discussed factors to be considered in selecting tests and techniques for appraising mental ability. Now we shall discuss techniques evaluating the degree to which pupils have mastered the concepts, skills, and knowledge they have been taught and the extent to which they can use these in solving meaningful problems. In turn, these test results can be compared with each child's mental ability to determine whether he is functioning at a satisfactory level.

Today teachers are encouraged to use achievement tests at the opening of the school term to identify and to diagnose learning problems. Careful observation of pupils while they are taking these tests, study of their responses, and conferences with each pupil concerning the test results help both the teacher and pupil discover when the pupil needs remedial instruction and some of the reasons why he needs such assistance.¹⁷ Furthermore, when the members of a school staff select an achievement test battery with care and administer it at the opening of the fall term each year, they obtain data which can be used in estimating each pupil's growth, and can, perhaps, make a better estimate than would be possible in the spring, because they secure an estimate of what the child learned and retained. Although pupils will probably forget some more of these skills and concepts, at least such a testing program gives a better estimate of "take home pay" than does spring testing. Furthermore, because they have not been responsible for teaching their present pupils teachers tend to be less defensive about their pupils' performance on the test.

There are certain basic skills which play an important role in determining whether a child makes normal school progress. These include a pupil's ability to acquire and understand another's ideas

¹⁷ Most teachers who have tried to involve their pupils in diagnosing their learning problems have found that such experiences create in the pupil increased readiness for remedial instruction and enable the pupil to select from the items missed, the types of problems which are meaningful to him and those which he can correct during the school term. This in turn prevents the teacher from assuming that a pupil needs remedial instruction merely because he selects the wrong answer on a test item and from leaving the pupil with the impression that he must correct all of his deficiencies within the near future.



Must every activity start with the children? Many times the teacher must select the most useful activity for her class, in order to meet special needs, or merely to conform to a standard curriculum. However, even in a tight schedule, there is always room for cooperative planning and discussion. Practice in democratic leadership is valuable for both the children and the teacher. (Photo: State University of Iowa, University Elementary School, James Kent, photographer.)



It's not too hard to sit quietly while listening to a visitor talk about safety, if the children understand the importance of the talk. The children know, too, that soon they will be able to continue their lively workday, during which they produced the pictures, the clock, and the reading phrases displayed at the front of the room. In such a classroom, self-discipline is developed naturally. (Photo: Oak Park, Illinois, Elementary Schools.)

(listening and reading), to communicate to others both his own and another's ideas (speaking and writing), and to apply mathematical knowledge, concepts, and skills in solving problems. Usually all these skills are incorporated in the better achievement test batteries. A few of them also try to appraise pupils' study habits and study skills. The better new tests tend to place less emphasis on pupils' ability to recall facts and more emphasis on their ability to use them in solving problems.

The earlier section entitled "Guides for Selecting Tests" should be reviewed before reading the following descriptions of some of the better achievement test batteries. Since times required for administration vary considerably for different age levels and since the directions for the various tests seem to take cognizance of the pupils' maturity, we have omitted from the test descriptions the information on time required.

THE CALIFORNIA ACHIEVEMENT TEST BATTERIES¹⁸

These tests were constructed to help teachers appraise pupils' growth in reading, arithmetic, and language at five levels: lower primary (grade 1 and first half of grade 2), upper primary (second half of grade 2, grade 3, and first half of grade 4), elementary (grades 4-6), intermediate (grades 7-9), and advanced (grades 9-14). For each of the three broad areas of study the tests appear to provide reliable measures—most coefficients of reliability are at least .90. Furthermore, the authors provide useful profile sheets for the teacher's study of subtest scores within each of the three areas. However, many of these subtest scores are based on a relatively small number of items. In each such instance the teacher should check the reliability of subtest scores and the adequacy of coverage in the area before accepting pupils' scores at face value.

Teachers find the tests easy to administer and score. Another advantage of the battery is its battery of comparable scores for grades 1-14. This feature enables teachers to appraise pupil growth as the child moves through the school system.

The 1951 tests are very similar to the 1943 edition of the Progressive Achievement Tests series. Apparently the norms for Form

¹⁸ E. W. Tieg and W. W. Clark, *California Achievement Test Batteries*. Los Angeles, Calif.: California Test Bureau, 1933-1957.

AA were based on a very carefully chosen sample of pupils from the various regions of the nation. On the other hand, the technique which the authors used to develop the norms for the other forms of the 1951 tests is less defensible. Nevertheless, the authors are to be commended for stating precisely how their norms were developed.

In standardizing their 1957 tests they administered both mental tests and achievement tests and considered both in building norms. On the basis of information obtained from the United States Office of Education, they considered the following factors in selecting schools from the various geographical areas of the nation: per-pupil expenditure for instruction, length of school term, type of school organization, and cultural background of pupils.

THE IOWA EVERY-PUPIL TESTS OF BASIC SKILLS¹⁹

The Iowa tests lend themselves to diagnostic study of pupils' learning skills: silent reading comprehension, work-study skills, basic language skills, and basic arithmetic skills. The tests emphasize ability to apply skills. Furthermore, the manual makes excellent suggestions for using the test results in diagnosing learning problems and planning remedial instruction.

Both level tests (grades 3-5 and grades 5.5-9) of the 1955 edition are contained in a single 96-page booklet, but of course pupils are administered only the tests designated for their grade level. The publishers sell test booklets to the schools with or without scoring service. The reliability of the tests compares favorably with others.

Though norms are based primarily on schools selected from the Midwest, the authors present a logical defense of their choice as representative of the nation. Fortunately, they discuss their statistical and sampling procedures frankly in the test manual. They also caution the teacher about reading too much into a test score.

METROPOLITAN ACHIEVEMENT TESTS²⁰

The authors of the Metropolitan Achievement Tests analyzed textbooks and courses of study to discover what the schools teach. These findings were, in turn used to design tests to appraise pupils'

¹⁹ E. F. Lindquist and A. N. Hicronymus, *Iowa Every-Pupil Tests of Basic Skills* Boston: Houghton-Mifflin, 1954-1955.

²⁰ R. Allen, H. Bixler, W. Connor, F. Graham and G. Hildreth, *Metropolitan Achievement Tests*, Yonkers, N. Y.: World Book Company, 1951-1955.

mastery of subject matter. Little emphasis is placed upon the pupils' ability to use subject matter in solving problems. Five levels of tests have been designed for grades 1-9.5.

The authors make excellent suggestions for using the test results. Furthermore, norms were developed with pupils selected from every state in the nation. Nevertheless, the authors admit frankly that they are not positive that their sample of pupils is representative of the nation's children. In addition to national norms they present regional and parochial-school norms.

A typical coefficient of reliability obtained for each grade level is .91.

STANFORD ACHIEVEMENT TEST BATTERY²¹

The authors of the Stanford Achievement Test Battery also used an analysis of courses of study as the basis for defining the content of their tests; and this has obvious advantages for the typical teacher located in a typical school. This aspect of the test is also the source of a weakness of both it and the Metropolitan tests: the emphasis on standard subject matter may discourage teachers from making curriculum changes to meet their pupils' special needs.

Nevertheless the Stanford Achievement Test Battery has been one of the widely used achievement tests since it was first published in 1923. The most recent edition consists of four batteries: primary, 1-3; elementary, 3-4; intermediate, 5-6; and advanced, 7-9. It also includes a new subtest for evaluating study skills. Though the individual tests are reliable enough to identify subject areas in which pupils need remedial instruction, they cannot be used to diagnose learning problems within school subjects. Machine-scored forms can be obtained for intermediate and advanced batteries. The manual includes an excellent description of the tests, the way they were constructed, and the norm group. Pupils from 363 school systems from 38 states participated in the testing program for developing norms.

Though such descriptions can be useful in introducing teachers to these particular tests, a teacher also should obtain specimen sets

²¹ T. Kelley, R. Maddox, E. Gardner, L. Terman, and G. Ruch, *Stanford Achievement Test Battery*. Yonkers, N. Y.: World Book Company, 1923-1953.

for the purpose of appraising both the test items and the manual before selecting an achievement test battery.

A Planned Program of Testing

To make the best use of achievement test results, the teaching staff should take an active role in defining the purposes to be achieved through achievement testing, in deciding when testing should be done, and in recommending the test battery of their choice. These decisions should be made by school building faculties and passed on to a committee which takes cognizance of all the recommendations in selecting a test battery for the entire school system.

If the school officials decide that they cannot afford to administer achievement tests each fall, we recommend that provisions be made for testing on alternate years beginning with the fourth grade. Below grade four it is doubtful whether teachers gather enough new information to justify the expenditure of time and money involved.

Appraising School Success

To evaluate a child's school success the teacher must compare the child's school achievement with his ability to learn. In order to do this the teacher must understand what the test scores mean.

Frequently, a teacher will worry about a pupil whose achievement test scores fall below his grade level and whose work does not improve with remedial instruction. Many such pupils cannot profit from remedial instruction because they are already doing as well as they can be expected to do. But such a teacher asks, "How can that be? Bill's grade placement is 6-1 (completed first month of sixth grade); the grade equivalent for his total achievement test score is 5-4. Shouldn't I expect him to obtain a grade equivalent of 6-1?" If the pupil has average mental ability (IQ 90-110) and he is attending a school whose pupils are similar to those who were used by the test author in developing the achievement test norms, the

answer probably is "No." In such an instance we would expect the average grade equivalent to be 6-1. By the same reasoning, on about October 1 we would expect approximately half of the pupils in the sixth grade to score below 6-1. In fact, with many achievement test batteries, the teacher should expect those whose scores fall within the middle 50 percent of the class to obtain scores within the range of approximately one year on either side of the mean. Therefore, since Bill's score falls within the range 5-1 to 7-1 we would say that unless there is additional information which suggests that he may be brighter than average, he is doing as well as can be expected.

Perhaps Marie Height's test scores can be used to illustrate how a teacher can use test results to appraise a child's school success. Except for the Revised Stanford-Binet which was given on about November 4, the tests were administered during the first few days of October (chronological age 10-7 and grade placement 5-1):

California Achievement Test Battery Scores

Reading vocabulary	5-9	English mechanics and	
Reading comprehension	4-1	grammar	5-3
Reading total	4-9	Spelling	4-5
Arithmetic reasoning	5-1	Language total	4-9
Arithmetic fundamentals	5-9	Battery total	5-4
Arithmetic total	5-7		

California Test of Mental Maturity MA's: nonlanguage 11-10;
language 9-7; total 10-2.

Revised Stanford Binet IQ:115 (MA:12-2)

At first Marie's teacher concluded that Marie was doing about as well as she could be expected to do. However, a more thorough examination of the mental test scores led her to refer Marie for an individual intelligence test; and the Binet test score did support the teacher's hunch that perhaps Marie had better learning power than was suggested by the other mental test score. Of course, this also was suggested by the difference between the nonlanguage and language scores on the other mental test, and further supported by the low reading-comprehension score. Compared with classmates, Marie was not retarded in her school achievement but her achievement did appear to fall more than one year below her mental ability. Thus, with the identification of a reading problem, her teacher was encouraged to seek further assistance from a colleague in diagnosing Marie's reading problem and in planning remedial instructions. These in turn eventually improved Marie's school work substantially. And as

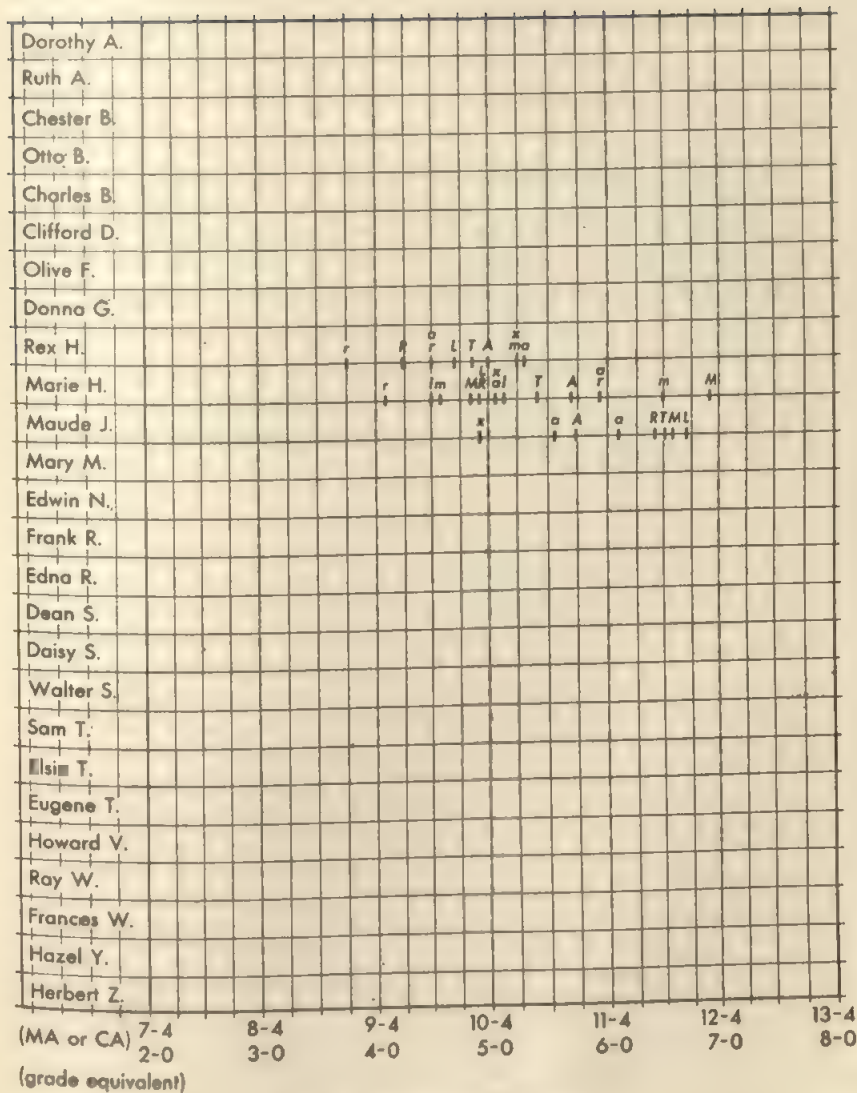
a result of this experience Marie's teacher learned to construct a table for easy identification of learning problems. To demonstrate how it works, two of Marie's classmates' test scores are recorded with hers in Figure 2.

In Marie's school the average chronological age for fifth graders in September is 10-3. Since the test was given about October 1, we began with 10-4 as the average CA for the fifth-graders and then worked both ways from it. The CA is indicated by an "x." Capital letters are used for total scores and small letters are used in marking part scores. Therefore, we recorded a small "r" just to the left of the 6-0 vertical line to represent Marie's reading vocabulary score of 5-9, a small "r" just to the right of the 4-0 vertical line to represent her reading comprehension score of 4-1, and a capital "R" to represent the total reading score 4-9 ("T" represents the total score for the complete battery). Whenever a pupil's scores within a subject area (e.g., reading or arithmetic) fall within a range of six months we record only the total score. For example, in Maude's case her reading scores were: reading vocabulary 6-5, reading comprehension 6-1, and total 6-3; therefore we recorded only the capital "R" for 6-3. For the same reasons we recorded only a capital "M" for her mental test score and "L" for her total language score. Two reasons justify this practice: (1) such small differences in scores are probably not significant anyway; and (2) it simplifies the construction and use of the profile sheet.

This simple device enables a teacher to obtain at a glance an over-all picture of each child's pattern of achievement and quickly to identify discrepancies in test scores which deserve the teacher's special attention. In Marie's case, for example, the profile sheet highlighted the difference in the two subtest scores on the mental test and the sharp differences between what one might expect from her in reading and how she actually functioned in reading.

Test scores from earlier testing can be used to appraise growth since the last testing period and to determine whether any problems identified in current testing were reflected in earlier scores. When achievement test scores are used to appraise pupil growth, the tests should be administered at approximately the same time of the year, preferably at the opening of the school term. Of course, previous test scores also can be used to check on the validity of recent measures—particularly in the case of mental test scores.

Lest someone conclude that test scores alone can be used to appraise a pupil's school success, we repeat the warning that test data



must be supplemented with nontest data if we are to fully understand each pupil's growth. The teacher must observe children in a variety of situations and obtain colleagues' appraisals of them to understand his pupils and to work with them most effectively.

Teacher-Constructed Tests

There are several reasons for supplementing standard achievement tests with teacher-constructed tests: (1) most teachers want to evaluate pupil growth more frequently than they can with standard achievement tests; (2) they wish to evaluate pupil growth in terms of special objectives which are not incorporated in standardized tests; and (3) they want to identify learning problems within each teaching unit so that they can provide appropriate remedial instruction before leaving the unit.

For example, upon completing a geography unit, Sarah Allen, a sixth-grade teacher, administered a 22-item objective test. After she had corrected the test she prepared the table of errors (see Figure 3).

This table gives a graphic picture of the test items commonly missed: 2, 3, 7, 12, 13, 14, 17, and 20. Sometimes pupils miss an item because the question is not stated clearly. Frequently several of the items missed will relate to some particular topic in the unit. In this particular test three of the items which most pupils missed (2, 13, 14) came from one part of the unit; 3, 12, and 17 came from another part; and 20 dealt with a minor point which the pupils might have failed to study. With a copy of the test and this information about the content covered, a teacher can quickly identify the topics in the unit which must be retaught before moving on to a new unit. From the pupils' discussion of the test it later became apparent that many missed number 7 because the question was stated poorly. Though the discussion of the test provided the pupils with the correct answers and an excellent review of the unit, the teacher concluded that remedial instruction was needed on two of the topics to supplement the discussion of the test and to reinforce the knowledge and skills learned from the discussion of the test.

The table of errors is easily constructed. After the teacher writes his pupils' names down the vertical axis and the test numbers along the horizontal axis, he moves across the row to the right of each

pupil's name placing an x above the number of each item the pupil missed. The numbers recorded in the right hand column indicate the number of correct answers for each pupil.

The same technique may be used to survey items missed on essay-test items. Since essay-test questions often cannot be scored either right or wrong, the teacher should record an x only when he feels that the pupil's answer suggests the need for remedial instruction. Perhaps he also should record a g to indicate the very good answers so that he may call upon these pupils to assist with remedial instruction.

Though the techniques of analyzing test results that we have described are useful, good tests are essential to identify learning problems. Before the teacher can construct a good test he must have taken certain basic steps. These are outlined below:

1. Very early in the study of each unit, the teacher should define to his class the important knowledge, concepts, skills, and behavior changes he hopes to teach his pupils. Usually other points are added during the unit. The degree to which he involves his pupils in defining these goals will be determined—in part at least—by his method of teaching.

2. Next, he must decide how he can appraise pupil growth in terms of goals for the unit. Since certain goals must be appraised in terms of behavior changes and improvement of skills, the teacher must identify these elements at the very beginning of the unit. He also must define specific criteria for appraising growth, plan for periodic appraisal and record descriptions of pupil behavior (anecdotes are useful for this purpose). In addition to defining criteria for evaluation he will need to answer these questions for himself: What materials and equipment will each pupil need to demonstrate growth? When should I observe him at work? How will I know whether his performance is acceptable? What behavior suggests that he needs remedial work? Obviously, the teacher must record both evidence of growth and descriptions of learning problems.

3. As a result of the second step he will be able to distinguish between goals that can and goals that cannot be appraised with paper and pencil tests. The latter must be appraised by observing children do the work. *After* he has decided which goals must be appraised

on *performance tests* in the course of studying the unit, he is ready to select the types of items which he can use to best advantage in a paper-and-pencil test. For example, multiple-choice items may be the best type for one purpose and an essay question for another.

4. While the teacher is teaching the unit, he should record ideas for good test items whenever they occur to him—while he is reading the text, reading other references, or participating in class activities. He must, of course, be wary lest he stress the recall of subject matter rather than its use in solving problems.

5. When the time comes to construct the examination the teacher should arrange his ideas for test items under each of the goals cited under the first step and note what additional items are needed. He should then select the best type of test item for each idea and write the items. Each test item should be recorded on a separate card for easy handling while editing and filing for future use.

6. After the items have been written and edited, the teacher may evaluate them by the following criteria:

Does it measure what he set out to measure?

Is it accurately and clearly worded?

When the teacher wants to measure understanding of special vocabulary, he should prepare special items for this purpose; otherwise when pupils miss items he will not know whether they failed to understand the vocabulary or whether they were unable to use and interpret the subject matter.

Does the item require more than ability to recall facts?

Good test items require the use of knowledge, concepts, and skills in solving problems.

Does the item include clues which enable the "test-wise" pupil to do well even when he is poorly prepared for the examination?

For example, every choice in a good multiple-choice item should sound correct to someone. To accomplish this the teacher must state each question with care; identify the common errors which pupils make; take each of these thinking errors and follow it through to its conclusion; and finally for each error record the answer which

results from it. Not only does this approach produce challenging choices, but it also produces choices which help the teacher diagnose learning problems, for he knows that certain thinking errors are associated with each choice.

Does the item discriminate between the best and poorest pupils?

Only those test items on which the top fourth of the pupils did better than the bottom fourth should be retained for future use with other classes.

Are the test directions clear?

Obviously pupils cannot do well unless they know what they are expected to do.

7. After the test has been given, scored, and the language improved for the good items which need further editing, the teacher should select the best items for future use. Otherwise too much time is required to start from scratch in constructing unit tests, and consequently teachers tend not to construct tests with sufficient care.

DISCUSSION QUESTIONS

1. Where may the teacher obtain nontest data to supplement test scores?
2. What factors should be considered before deciding to give a test?
3. To what extent should teachers participate in selecting tests?
4. What criteria should be considered in evaluating prospective tests?
5. How have the authors of mental tests differentiated between intelligence and mastery of subject matter?
6. Why have the authors of mental tests recently given increased attention to the relationship between cultural background and test performance?
7. What may the teacher do when he believes that a pupil's mental test score has been depressed by any one of several factors?
8. What precautions should a teacher take in interpreting a pupil's test scores to his parents?
9. Which of a teacher's questions about his pupils may be answered by using an achievement test?

10. What nontest data should teachers seek to supplement achievement test scores?
11. Why are teachers currently being encouraged to administer achievement tests at the beginning of the fall term?
12. What are the primary advantages of a school testing program?
13. How can a teacher determine whether a pupil is doing as well as he should?
14. What unique contributions can teacher-constructed tests make?
15. Why should pupils be involved in diagnosing their learning problems?
16. What are the characteristics of a good teacher-constructed test?

SUGGESTED READINGS

1. Cronbach, Lee J., *Educational Psychology*. New York: Harcourt, Brace, 1954. Chapters 7 and 16 help teachers answer such questions as (1) How may the teacher appraise his pupils' study skills? (2) To what extent can learning power be modified by a favorable environment? (3) From what sources may the teacher obtain evidence for judging a pupil's performance? (4) What are the chief limitations of standard achievement tests? How may they be used to advantage?
2. Froehlich, Clifford P., and Darley, John G., *Studying Students*. Chicago, Ill.: Science Research Associates, 1952. Since we commented on this book earlier (p. 80) we merely point out that Chapters 11 and 12 answer these questions: (1) What are the primary advantages of using standardized achievement tests? (2) To what extent may achievement tests be used to diagnose learning problems? (3) How can the teacher determine whether his students are working up to capacity?
3. Morgan, Clifford T., *Introduction to Psychology*. New York: McGraw-Hill Book Company, 1956. As the title indicates, this is a beginning text in psychology. Chapter 15 discusses what intelligence tests measure, how they are constructed, and their common weaknesses. It also cites some of the problems gifted children face in our schools today.
4. Remmers, H. H., and Gage, N. L., *Educational Measurement and Evaluation* (rev. ed.). New York: Harper & Brothers, 1955. Beginning teachers can obtain some practical assistance in constructing and using tests from Chapters 3, 4, 5, 8, and 9. They discuss: (1) For what purposes would one use essay test questions? (2) What

basic steps should a teacher follow in constructing an examination? (3) What are some of the common weaknesses of achievement test batteries? (4) What factors should the teacher consider in interpreting mental test scores?

5. Thorndike, Robert L., and Hagen, Elizabeth, *Measurement and Evaluation in Psychology and Education*. New York: Wiley & Sons, 1955. This book was written to help teachers and guidance workers use and interpret tests and to provide them with professional background for specialized courses dealing with practical testing problems and test construction. We believe that our readers will profit from reading the following chapters: 6, "Qualities Desired in Any Measurement Procedure"; 7, "Norms and Units of Measurement"; 9, "Standardized Tests of Intelligence or Scholastic Aptitude"; and 11, "Achievement Tests."
6. Torgerson, T. L., and Adams, Georgia S., *Measurement and Evaluation for the Elementary School Teacher*. New York: Dryden Press, 1954. We recommend the chapters on the measurement of intelligence. It discusses why bright children behave differently to dull ones and what teachers can do about these differences. It also suggests how teachers can tell when a pupil should be referred for an individual test.
7. Wickens, Delos D., and Meyer, Donald R., *Psychology*. New York: Dryden Press, 1955. This is another beginning psychology text. Chapter 12 on intelligence has much to offer beginning teachers. It discusses the characteristics of a bright child, the factors which produce individual differences, and test authors' bases for selecting intelligence test items.
8. White, Verna, *Studying the Individual*. New York: Harper & Brothers, 1958. This book was written to help the teacher achieve the understanding necessary to teach his pupils most effectively. It both presents a philosophical framework which explains why teachers must understand their pupils and gives specific aids for studying individuals within the limitations of the practical school situation. Since it is a short book many will want to read the entire book.
9. Willey, R. D., *Guidance in Elementary Education*. New York: Harper & Brothers, 1952. Chapter 8 discusses common errors teachers make in interpreting mental test scores, precautions teachers should take in interpreting achievement test scores, and what a teacher may learn about his pupils from an achievement test.

Instructional Materials and Curriculum Decisions

THE SYSTEMATIC INSTRUCTION of the school always takes place in a planned environment designed to provide some sort of educative experience. This planned environment includes the materials of instruction, which are material (tangible) things employed for the purposes of communicating facts, information, and processes and experimenting with or expressing ideas. They include textbooks, reference books, motion pictures, maps, charts, chalkboards, television, radio, field trips, science laboratories, models, machines, collages, sociodrama, exhibits and a host of other things.

The school is primarily concerned with each student's learning of information, concepts, and generalizations. Instructional materials greatly influence the quality of these learnings. This ideational quality is pervasive in nearly all learning activities common to schools; it is represented by the meaning of numbers in arithmetic, the relationship of facts in history and geography, the principles of biology and physics, the scientific aspects of the culture, the development of

taste in the arts, the recognition of style in physical education, the perception of affective elements in literature, and many others.

The ideas enumerated above will be found to include all types of learning. Almost any idea is partly verbal, partly emotional, and partly motor. The school's central task is to help each learner discover the *meaning* of the things he learns. But there is no way in the world to *give* meanings to the learner. Meaning comes only through individual experience. Of course, concepts and ideas are formed by the child before he enters kindergarten, and the adult continues the process indefinitely.

The infinite variety of ideational learning tasks to be undertaken in the school, and the multitude of instructional materials available to invest these tasks with meaning, certainly would appear as a hopeless jumble of ideas and things were not some comprehensive scheme available to help the teacher plan and control learning activities. The presentation and discussion of one such scheme is the central purpose of this chapter.

In this chapter, instructional materials are regarded as means to an end, the end being meaningful learning at progressively higher levels of abstraction. We will therefore approach the scheme for selection and control of materials through a consideration of the role of verbal symbols (abstractions) in the formation of concepts, generalizations, and information. It may seem strange to begin a discussion of material things with a consideration of words and language, but these represent both the working capital of the student and the medium of exchange between teacher and student. The "things" used to promote learning have an intimate relationship with the student's achieving meaning from his learning tasks. It is the process of achieving meaning that offers clues to the making of curriculum decisions, and to the selection of materials to implement those decisions.

The Role of Verbal Meanings

Teachers and students, from kindergarten through the university, seem to live in a whirlpool of words. From the time Bobby's kindergarten teacher *tells* him how to button his coat until as a

college senior he writes his final examination in *History of Byzantine Civilization*, the student swims in words and symbols. The so-called content studies, such as social studies, science, and health, consist mainly of words. The school arts, such as music, fine and applied arts, and language study, depend to a great extent on words. Even mathematics and formal grammar require extensive use of written and spoken words for explanatory purposes. In truth, Bobby's success or lack of it in school seems inextricably tied to his ability to manipulate and understand words and symbols. And, as if this were not enough, Bobby's out-of-school life, now and for all his adult years, will be immersed in the words and slogans of newspapers, radio and television stations, ministers, direct mail advertising, magazines, speakers, books, friends, letters, and relatives. Words are woven into the fabric of almost every detail of Bobby's life.

Nonverbal Concepts

Of course, from his infancy onward Bobby has been building his own systems of nonverbal concepts and generalizations. Long before the child possesses language as we know it, he reacts to nonverbal representations, and both children and adults arrive at understandings of relationships which they cannot verbalize. Common observation and research bear out the truth of this statement. But by the time the child enters school, and as he advances through the grades and acquires language terms, his dependence on nonverbal clues becomes less and less.

The Verbal World and the Firsthand World

The words that the teacher may note as an essential part of school life are *verbalizations* of the "ideas" they stand for. The teacher probably will refer to the building of "ideas" in terms such as "information," "concepts," and "generalizations." The most evident characteristic of these terms is that they are predominantly verbal. The qualities they refer to are learned chiefly through words, and when learned their use most commonly requires the employment of words.

In the school we deal with the events of past centuries not as

happenings we can witness, but in the form of facts and relationships which have been recorded and can be studied and used by means of words. In the school we deal with geographical space not as a phenomenon we can observe, but in the form of reports, maps, and photographs of distant places, even when we have never been there.

There is a sense in which both teachers and students live in two worlds. First, there is the world of happenings which are known at first hand. This is an extremely small world, consisting only of things actually seen, felt, or heard. Most persons would know very little if their experience had been restricted to the firsthand world. Most of our knowledge acquired from books, newspapers, conversations, speeches, radio, television, and teachers is received *verbally*. Seldom is this knowledge given us by those who have witnessed actual happenings, or have creatively "worked out" new ideas or theories. This knowledge is derived from reports of other reports, which may be based on a series of still other reports, which go back ultimately to the persons who did witness the actual happenings, or who originated the new ideas or theories. This is the *verbal world*.

The Symbolic Process

Dependence on verbal clues means dependence on a highly developed, subtle, and complicated form of symbolism. Through the centuries human beings have agreed to let certain sounds (speech) and certain marks (writing or printing) stand for specified happenings and phenomena. The *symbolic process* is the process through which human beings can arbitrarily make certain things *stand for* other things. And as human beings we can manufacture, manipulate, and assign values to our symbols. For example, we can agree to let X stand for the boys in a school and Y stand for the girls. Then we can let the symbol N stand for all the X's and Y's. N becomes a symbol of symbols. It is important to note that *there is no necessary connection between the symbol and that which is symbolized*. The word *horse* bears no resemblance to the characteristics of the animal on the racetrack, the cowpony on the range, or the Shetland that children ride. It is a symbol, an abstraction, which expresses what is common to the racehorse, the cowpony, and the Shetland, ignoring the differences among them.

Extensional Meanings and Intensional Meanings

We may formalize our concepts of the firsthand world by noting that we refer to it through *extensional meanings*, since the meanings are those which words stand directly for. The verbal world may, in turn, be referred to through *intensional meanings*, or representative meanings. For example, a statement such as "This schoolroom will seat twenty-seven students," has extensional content. After someone has counted the number of chairs, all discussion ceases. On the other hand, the statement, "This schoolroom has the spirit of Horace Mann watching over it," has no extensional meaning, but is intensional since we cannot see, touch, or photograph the presence of the spirit of Horace Mann and a discussion of the assertion would be futile. However, intensional meanings permit the free play of imagination, unhampered by the weight of firsthand ideas. Language is necessary for thinking as well as for communication, and intensional meanings offer a convenient way to facilitate thought and communication.

The functions of these two kinds of meanings can be seen clearly in a paragraph written by John Dewey:

Natural objects are signs of other things and events. Clouds stand for rain; a footprint represents game or an enemy; a projecting rock serves to indicate minerals below the surface. The limitations of *natural signs* are, however, great. First, physical or direct sense excitation tends to distract attention from what is meant or indicated. Almost everyone will recall pointing out to a kitten or puppy an object of food, only to have the animal devote himself to the hand pointing, not to the thing pointed at. Second, where natural signs alone exist, we are mainly at the mercy of external happenings, we have to wait until the natural event presents itself in order to be warned or advised of the possibility of some other event. Third, natural signs not being originally intended to be signs, are cumbersome, bulky, inconvenient, unmanageable. A symbol, on the contrary, is intended and invented, like any artificial tool and utensil, for the **purpose of conveying meaning.**

It is therefore indispensable for any high development of thought that there exist intentional signs. Language supplies the requirement.¹

The role of verbal factors in the formation of concepts, generalizations, and information is strikingly clear. Language is the

¹ John Dewey, *How We Think* New York: D. C. Heath and Company, 1933, pp. 231-232.

indispensable mechanism of human life. The cultural accomplishments of the ages—inventions, discoveries of the arts and sciences—all come to us through one of the greatest of human achievements, which has made all other achievements possible—the intellectual classifications that constitute the working capital of thought, built for us by our language.

The Process of Abstracting

The symbolic process is made possible through the process of abstracting. The process of abstracting is an indispensable tool with which we select certain characteristics of an object or event that suit our purposes, and leave others out. It is found in all observation that detaches a quality from a vague blur in which it has been absorbed and gives it distinctness. Our words (verbal symbols) are a form of shorthand. They are abstractions which permit us to hold problems in place while we work on them. They permit us to compare situations and examine their common elements. They also make possible the building of conceptions which have no direct counterpart in the world around us. For example, the generalized conceptions of "work," "play," "communicate," and "read" are at a relatively high level of abstraction and stand for characteristics that a multitude of activities have in common, yet leave out most specific characteristics. The abstraction "work" does not necessarily imply rowing a boat, building a garage, managing a business, or writing for publication, yet all these activities may be work. "Play" might mean anything from having a game of checkers to indulging in pun-making. "Communicate" could vary from one person's sly wink at another to the sending of a telegram, and "read" might mean anything from interpreting a musical score to receiving Morse code over a telegraph.

The highly abstract terms have intensional meaning and serve, ultimately, as classifications and generalizations. Terms or phrases at the lower levels of abstraction have extensional meaning and serve to make thinking clearer and more specific. It may help to visualize this distinction if we try to imagine taking a snapshot of "work." What might be included in our picture? But we could easily imagine photographing a person rowing a boat or building a garage.

Another illustration of the process of abstracting, or leaving characteristics out, was given by Hayakawa.

Suppose that we live in an isolated village of four families, each owning a house. A's house is referred to as *maga*; B's house is *biyo*; C's house is *kata*, and D's is *pelel*. This is quite satisfactory for ordinary purposes of communication in the village, unless a discussion arises about building a new house—a spare one, let us say. We cannot refer to the projected house by any one of the four words we have for the existing houses, since each of these has too specific a meaning. We must find a *general* term, at a higher level of abstraction, that means “something that has certain characteristics in common with *maga*, *biyo*, *kata*, and *pelel*, and yet is not A's, B's, C's, or D's.” Since this is much too complicated to say each time, an abbreviation must be invented. Let us say we choose the noise, *house*. Out of such needs do our words come—they are a form of shorthand. The invention of a new abstraction is a great step forward, since it makes discussion possible—as, in this case not only the discussion of a fifth house, but of all future houses we may build or see in our travels or dream about.²

The Abstract Nature of Concepts

The building of concepts by the learner involves far more than making arbitrary associations with new “words.” A concept is an abstraction. A child's original idea of Rover is vague and indistinct, so long as Rover is the only dog he knows. By observing the family cat, he may begin to distinguish the particular qualities that belong to each of them. As he extends his acquaintance to other animals the definite properties that belong to a dog become clearer and the dog-meaning gets still further refined. During this whole process he has been trying to find reliable clues that will enable him to distinguish “dog” and “Rover.” When he is able to apply either *name* to the object and to similar objects, he has arrived at a stage of abstraction and his idea has become a concept which may serve as an aid in understanding some other experience. Later he may refer to Rover as a “pet.” This term is at a still higher level of abstraction, and his idea acquires *generality*.

This process is repeated over and over again throughout the course of any person's day by day living and, more importantly for

² S. I. Hayakawa, *Language in Thought and Action*. New York: Harcourt, Brace and Company, 1949, pp. 168–170.

our purposes, throughout any student's progress through the grades. For example, a little child's original idea of "water" may be vague and indistinct. As he uses and observes milk and oil he may begin to identify the particular qualities that differentiate each of them. By the time he starts school he probably will be able to use many clues that enable him to differentiate water from other fluid substances, and the term has acquired a degree of generality. For his purposes he will be able to focus on some characteristics of the water-meaning and ignore others. He may note that it is odorless and tasteless but leave out its tendency to "run" from higher places to lower places. Later on he will expand and refine his water-meaning by observing that in addition to being liquid it can be solid and it can be a vapor. When this happens he will be thinking in terms at a higher level of abstraction. Still later he may think in even more general terms and express them in the symbol H_2O . If he *understands* the symbol it will mean to him, "each molecule of water contains one atom of oxygen and two atoms of hydrogen." This is a concept at a very high level of abstraction, which leaves out most characteristics of water as the student knows them and necessitates the use of other abstractions, "molecule" and "atom." (We might pause for a moment to note that these two abstractions—molecule and atom—relate to nothing immediately and directly available to sense. Their meaning is almost entirely intensional, though they help conceptualize forces in the *extensional* world.)

As the illustrations above demonstrate, concepts have two basic *dimensions* which change as they become progressively more definite, more refined, and more abstract. One dimension is that of *differentiation*. The dog-meaning was partially built by contrasting Rover with other dogs and with the family cat. Water is not always a liquid because sometimes it is ice and at other times steam. The water-meaning may be expressed in terms of its two constituent gases, hydrogen and oxygen, thus differentiating it from chemical compounds formed of minerals. The other dimension is that of *integration*. A concept may become transferable to other meanings, or be used figuratively. We may speak of "watered shares of stock," "of the first water," "to water down," "dog days," and "dog eared," to mention a few. When this occurs the concepts no longer are held in their original narrow classes or systems of ideas. The learner dis-

covers qualities that are common to the original abstraction and events or ideas that were not in its class to begin with. His use of the abstraction is extended into new relationships.

Probably most abstractions are developed by learners through the kinds of changes just discussed. *It seems obvious that the learning of concepts is no simple matter to be neatly assigned to various grades and forgotten.* The cardinal learning process in the development of concepts and generalizations is problem-solving,³ wherein the learner is free to determine his own organization of ideational materials. The organizations may be superficial and inexact, but they provide a system of relationships which put some sort of meaning into otherwise meaningless learning tasks. School children show a tendency to organize learning tasks even when the tasks are apparently meaningless. The sensitive teacher encourages this tendency in children as they search for richer and richer meanings. As we pointed out earlier, there is no way in the world to give meanings to the learner, *he must construct them out of his own experience.* His schooling should be composed of varied experiences that will familiarize him with the two basic dimensions of concepts, *differentiation* and *integration*. This task will be made easier by his use of material at various levels of abstraction.

All these considerations come to a focus when we realize that *all we know is abstractions.* The question is not whether we will teach children "abstract" ideas; *all ideas are abstractions.* Some are at a higher level of abstraction than others, but from the time a child first gives a name to an object, or uses a word to express something, he is in the world of abstraction—where he will spend the rest of his life. The test of an abstraction is not whether it is "high or low level," but whether higher abstractions can be meaningfully related to lower ones in the same system of relationships: whether intensional meanings can be related to their extensional counterparts, and whether intensional ideas can be empirically tested at the extensional level. Nor is theoretical thinking a higher type than practical thinking. A person who has command of both types

³ The classical formulation of the five steps in problem solving may be found in Dewey's *How We Think*, op. cit., pp. 16-15. The steps are: (1) Becoming aware of a problem, (2) Clarifying the problem, (3) Proposing hypotheses for solution of the problem, (4) Reasoning out implications of the hypotheses, (5) Testing the hypothesis against experience.

and who can with facility alternate from one to the other, is better able to plan, to invent, to predict, to arrange than he who possesses only one. To promote the meaningful acquisition of ideas, concepts, generalizations, and information and to encourage this facility of intensional and extensional thinking teachers plan, select, and arrange the material environment of the classroom.

The Instructional Materials Stairway

Four levels of instructional materials, of psychological processes involved in the learning experience, and of steps in the process of abstracting have been visualized in chart form, based on the analogue of a stairway's levels. Obviously, the chart on the opposite page includes more than the arrangement of materials by levels; it includes reference to basic considerations essential to the making of most curriculum decisions. The chart is a summary statement of the material presented in the chapter thus far. It is intended as a convenient guide to help the teacher make decisions on problems having to do with learners and their learning experiences.

If the learning experiences of a student are to be varied, if the learning process is to be characterized by problem-solving, and if the student is to construct meanings out of his own experience, then the teacher must guide him as he constantly reorganizes his own systems of meanings on various levels of abstraction. This makes necessary the teacher's identification of the level of abstraction which the student has attained and his use of this information as a basis for helping the student find and take the next step "upward" or "downward," and at times "to the side." One tangible and efficient way for the teacher to do this is to arrange various materials of learning calculated to guide the student from one level of ability to handle abstractions to the next, and back "downward" again. Since the learner must construct his own meanings out of his own experience, he will independently be working with some kind of instructional material most of the time. Even if he is left alone he will fashion a material out of something, if for no other reason than to have "something to do." If the materials in his environment can be deliberately planned to lead him to higher and higher abstractions as he discovers meanings, then his learning will become more

Instructional Materials Stairway

Start reading from the bottom UP

V. SYMBOLIC MATERIALS verbal and visual symbols as found in textbooks, encyclopedias, formulas used in mathematics and the sciences, musical scores, etc.	V. Consulting textbooks, reference books and encyclopedias to gain knowledge on the changing condition of the atmosphere which surrounds the earth.	V. SYSTEMATIC GENERALIZATION including awareness of "knowing," reflective thinking, mature ingenuity, etc.	V. The object or experience at an extremely high level of abstraction omitting almost all reference to the original characteristics.
IV. PICTORIAL MATERIALS experiences with flat pictures, motion pictures, television, maps, charts, graphs, radio, recordings, etc.	IV. Learning to read weather maps prepared by the U.S. Weather Bureau, and weather charts and maps published in local newspaper.	IV. VERBALIZATION & SYMBOLIZATION including understandings, appreciations, extension of ideas already in process of formulation, etc.	IV. The object or experience portrayed. Still fewer characteristics selected for attention and more are left out.
III. MANIPULATIVE MATERIALS experiences with models, machines, instruments, laboratory-type objects, art media, constructional equipment, aquaria, collages, dramatizations, sociodrama, exhibits, chalkboards, etc.	III. Use of aneroid barometer, anemometer, and wind vane at school to make own predictions.	III. EXPLORATION AND DISCOVERY including study, location of talents and abilities, practice, development of skills, etc.	III. The object or experience selected for study. Certain characteristics are seen as important and others are left out.
II. REALITY MATERIALS first-hand experiences with real objects in their complex, usual settings; field trips, work-experiences, school "stores," etc.	II. Trip to the local television station to observe "weather man" prepare for next broadcast.	II. READINESS including drives, needs, interests, sets, etc.	II. The object or experience recognized and named. The name is not the object; it merely stands for the object and omits many characteristics of the object.
I. The enormous world of things and ideas consisting of the biological universe, the physical universe, and the social-psychological universe. Qualities (indicated by irregular lines) include anything in the natural universe, all man's social inventions and ways of living. Characteristics are infinite and ever-changing. This is the dynamic level.	I. Interest in the problem of weather predictions. How are storm warnings determined? How is fair weather forecast? How far ahead can weather be predicted? Characteristics (indicated by irregular lines) are many and changing.	I. The learner's psychological state in a learning situation, according to scientific inference. Characteristics at this level (represented by irregular lines) include goal-seeking and tension-reducing behavior, and a complex of acts, such as motor, verbal, emotional, and attitudinal responses.	I. The object or experience in the "chance" world. Characteristics of the object or experience at this level (indicated by irregular lines) are complex and ever-changing.
LEVELS OF INSTRUCTIONAL MATERIALS	EXAMPLE	PSYCHOLOGICAL PROCESSES IN LEARNING	THE PROCESS OF ABSTRACTING

and more useful, and, we may hope, more and more pleasurable to him.

Most materials of instruction can be arranged in order of their specific ability to promote the learning of concepts at certain levels of abstraction. For instance, selling paper and pencils in the school store is a less abstract experience than solving an arithmetic exercise written on the chalkboard, "Jim has 50¢. He buys a tablet for 25¢ and two pencils for 6¢ each. How much money does he have left?" Taking a field trip to observe a Bessemer converter in operation at the iron-and-steel works is a less abstract experience than hearing a lecture in chemistry class on the oxidation of manganese, silicon, and carbon. Making a model of old Fort Sumter is a less abstract experience than reading an account of it in a sixth-grade history book's chapter on "The War Between the States." All these experiences have their advantages and their limitations, depending on the concepts to be taught and the maturity of the students who are involved in the learning. For some students, at times, the less abstract experiences would be unrewarding, and for others the more abstract would be unenlightening. However, *all students can gain understandings at higher levels of abstraction when they have had rich experiences at the lower levels dealing with the same concept.*

At this point it is important to note that any student's feeling of successful activity in new learning experiences depends to a large degree on his past experiences. As we have said, all children acquire concepts and generalizations in their preschool years. And after this period they will continue doing so in their out-of-school life. However many concepts they may be taught in school, the majority of students acquire a far greater number in life outside the school. Some will bring to school a rich nonschool background of experience, while others will possess only a lean and sketchy fund of experience in the "idea-stimulating" activities of our society. Consider the differences between children who have been taken on exciting vacation trips, and those who have never been out of their own neighborhoods; children who own novels and encyclopedias, and those who cannot claim even a comic book; children who own bicycles, toys that "work," and science equipment, and those who simply never have anything that was "boughten." Some students will be prepared to undertake learning experiences at a relatively

high level of abstraction because they have already encompassed the lower levels outside the school, while others will still have leagues to go. Some students, when dealing with some subject areas, will seem to take materials that lead to high level abstractions, "like ducks take to water." Others may flounder with these materials but do well with different materials that lead to abstractions at lower levels. The deliberate use of appropriate materials with the ordinary classroom group (about five grade levels of ability in the same class) may contribute much toward solution of the "slow learner-fast learner" problem that perennially plagues most teachers.

The Instructional Materials Stairway is a chart intended to *prompt thinking on the selection and arrangement of materials in teaching* and on the major reasons for dealing with materials as the chart suggests. The "Stairway" should not be expected to do more than most charts can. It, too, is an abstraction which "selects certain characteristics and omits reference to others." In fact, almost all characteristics of the on-going classroom have been excluded from attention. No "step" or processes indicated on the chart has the strength of "fact" or "law." There is no intent to indicate that each learning experience must follow the steps indicated. Rather, for reasons of economy of time and money numerous learning experiences can and should begin with materials more abstract than those classed as "reality materials." And students involved in many learning experiences, after they have successfully used materials going *up* the steps, will profit from a return *down* the steps. These are decisions that can be made by no one but the teacher involved. The following pages will be used to discuss problems sure to be met when a teacher attempts to use the chart as a "thought piece" in planning for **instructional materials**.

Consult the Materials Stairway again. You will observe that it is arranged in five divisions, four of these being "steps" that lead from firsthand learning experiences and things to experiences with symbols that merely *stand for* objects or experiences. It is neither possible nor desirable to attempt to replicate, for study in the school environment, the infinity of life situations as they are encountered in the actual world. Rather, the school can best be understood as a *simplified and controlled* environment for the study of life and its adjuncts. As we have seen, concepts learned in the school are abstrac-

tions of reality, and the school, in a very real sense, represents an abstraction of life (i.e., certain characteristics are selected for our purposes, and others are left out). It would be absurd to suppose that all real-life objects or materials could be imported into the school, or that children could be transported to many actual scenes of real-life happenings. Consequently, from the very beginning school represents, for the child, rather small "slices" of life selected for study. As the child progresses through the school these "slices" become more refined and are represented by higher abstractions. However, within the simplified environment of the school the student must discover his own meanings for the ideas he learns, and these meanings are richer and more permanent when they grow from his own experience. John Dewey expressed the idea in these words:

It is not the business of the school to transport youth from an environment of activity into one of cramped study of the records of other men's learnings: but to transport them from an environment of relatively chance activities (accidental in the relation they bear to insight and thought) into one of activities selected with reference to guidance of learning.⁴

Consequently, the Stairway begins with the first level of abstraction, *reality materials*. These materials are abstracted from the real world but are still part of it. They may be seen, heard, tasted, felt, and smelled. Learning from reality materials is active, vivid, and firsthand. They help the learner gain that stock of experiences necessary to the building of concepts. In addition, they provide the more mature learner with a field for the empirical test of concepts and hypotheses gained at the highest level of abstraction.

The next step consists of *manipulative materials*. These materials are not far removed from reality because they are tangible and require the active participation of the learner. They differ from reality materials in that they make possible experience with unmanageable or inaccessible firsthand objects. A manipulative material differs from the original in size or complexity. When a thing is too big, too minute, too obscure, or too dangerous, an edited version of the real thing, scaled up or down, may be better for teaching purposes. Manipulative materials are controllable and may be modified for

⁴ John Dewey, *Democracy and Education* (38th printing; New York: The Macmillan Company, 1950, p. 320.

classroom use. In addition, they may represent abstract concepts, like the "tens bundles" used in arithmetic, and so not even represent an actual, useful object. These materials leave out many characteristics of objects considered at the reality level.

Pictorial materials omit many of the sensory impressions characteristic of the first two levels: it is difficult to taste, feel, smell, or manipulate the objects represented by a picture, map, graph, or radio program. Characteristically, these materials are intended to communicate edited and selected concepts, and concentrate on refined and narrowed ideas. They have the advantage of being able to present many concepts quickly. However, they are best used to refine ideas already formed. Pictorial materials are less direct than manipulative materials. They tend to involve the student as a spectator or observer and may not demand his overt participation. They make possible the student's personal detachment from the ideas being worked on and allow a measure of intellectual distance from the idea or concept.

The fifth step consists of *symbolic materials*. These materials consist of designations that bear no physical resemblance to the objects or ideas for which they stand. The words are not the objects, they merely *stand for* the objects. They are an organization of arbitrary symbols; marks that cause an interaction between our nervous systems and something outside them. The important characteristic of these materials is the completely abstract quality of symbols, regardless of what they symbolize. Symbolic materials tend to be highly selective, omitting "real" characteristics of the objects or ideas in their original complex and full bodied settings. Being free of the weight of unnecessary details they permit the intellectual play of ideas, and imaginative combination and recombination of concepts. For their *meaningful use* they draw on the learner's whole background of experience at the first three levels. Frequently, students learn to manipulate words without knowing what the words mean. This thought is sometimes expressed as: "What a person takes from the printed page is proportional to what he puts into it."

We have gone *up* the Stairway. We began with reality and ended with symbols of reality—which represent an *end goal* of education, "understanding the subject matter of the adult and the specialist," as Dewey phrased it. However, the achievement of this end

goal involves meaningful experiences at and between these two points. The "makings" of these experiences may become more definite if we now briefly consider each step through some suggestions on its component parts, which are indicated between the horizontal lines on the chart.

Reality Materials

As we have said, materials at the "reality" level do not represent real things with *all* their natural characteristics. These materials should be considered as the first level of abstraction, selected out of full and complicated life situations for particular teaching purposes.

Types of Reality Materials

Any actual event or process may be used here. Commonly, there are three kinds of reality materials useful for school purposes:

1. Observation and study of real life enterprises of other people, carried out through field trips, interviews with community people, and resource visitors.
2. Constructional activities used to provide goods and services actually needed in the school. (The fourth grade may operate the school store, the sixth grade may publish the school "newspaper," and so on.) These activities may be modeled upon downtown stores and newspapers, but they leave out many characteristics of "downtown."
3. Less tangible elements in the life of the school—student council, playground committees, guides appointed to escort visitors, and other social experiences—offer opportunities for development of civic responsibility and awareness of social problems.

Materials at this level may be imaginatively selected by the teacher and students. They seldom come "packaged" ready for use. Frequently, they necessitate a good deal of planning and involve many considerations extraneous to the desired learning experience.

itself. Reality materials offer some of the richest kinds of learning. Realistic, direct apprehension is quick and every student can learn from sensory experience. But the use of these materials is definitely limited by four conditions:

1. Even little children have interests that extend beyond any tangible counterpart in the local school and community.
2. Firsthand experiences frequently are cumbersome and costly in terms of available time.
3. More precise and symbolic knowledge is taught with great difficulty through practical experience.
4. Some learnings may be hastened and deepened through experiences indicated by the next higher steps.

It is probable that these four conditions have been to a certain extent responsible for the limited use of reality materials in most school situations. However, experiences with these materials form the bedrock of all education, and their use, where feasible, greatly strengthens and vitalizes learning programs.

Related Processes "Inside" the Learner

Direct experiences are potentially purposeful experiences. Because of their sensate nature they can be quickly perceived and the learner is immediately confronted with a wide range of things and ideas from which to choose. Almost every student can find something to "get his teeth into" in a realistic situation. An initial observation, which stimulates *interest*, may create a series of reasons to follow the interest farther. Most students discover that following an interest derived from a realistic situation will lead them into more concentrated study of *that part* of the situation. They will have abstracted part of the experience and want to gain fluency concerning it. They may feel a need to solve perplexities regarding the object of interest and will be ready to take steps toward solution of the problem they have recognized. All of these "inside" forces—interests, drives, sets, and needs—are part of the more general term, *motivation*. Motivation is a necessary condition if the learner is to engage in learning activity. When the learner responds to his motives for learning he is said to be *ready* for the specific learning intended or desired.

The learner's progress toward higher, more abstract learnings depends basically on his readiness to seek the learnings indicated. In the past there have been some rather gross misunderstandings of the readiness factor in the learning process. Some school practices have evidently been based on a belief that readiness is a product of maturation. For example, if a child failed to give evidence of being ready to learn to read, the cure was to be found in patience: "just wait until he grows a little older, then he will start." Of course, most children who have been allowed to "grow a little older" eventually have learned to read. But undoubtedly their waiting period, quite through chance, included some direct, purposeful experiences that the school might well have provided. And, sadly enough, other children have "grown a little older" without ever becoming very good readers.

Teaching Reading: An Example

The problem of teaching beginning reading in first grade offers a clear example of how to use reality materials in building readiness, and in locating motivations. A technique in the teaching of beginning reading is the use of the "experience chart." Numerous teachers have successfully introduced little children to the tremendous task of learning to read through the experience chart idea. The way one first-grade teacher went about this job was recounted by her supervisor:

During the first week of school Miss Sullivan discovered that there was not one "ready-made" reader in her new group. Occasionally there was at least one child in her group who started school already able to read his first primer, and sometimes there were more. In the past she had been able to use such children as "motivators" for the others, but not this year. Casting about for a meaningful way to introduce the mystery of reading, she decided to use, and use soon, the experience chart with all its associated first-hand experiences.

She arranged for a field trip to a nearby farm. She had used this trip before, counting on city children's usual interest in animals and machinery, and it had seemed to give them "ideas to burn." She almost apologized to herself for arranging another trip to a farm, for she knew that the farm trip had become a first-grade stereotype. But, the children had placed the farm first on their list of places to visit, and such a trip did offer fascinating observations for small children.

After they had spent half a day on the farm and had returned to the classroom, they engaged in a lively discussion of "What did you see that you've never been close to before?" As each child responded to the question, Miss Sullivan wrote (manuscript writing) his words on a large sheet of newsprint which was suspended on an easel. She left plenty of room opposite each statement so that she could invite the children to draw a picture of things they had seen, if they wished. Five sheets of newsprint were filled, and the experience chart was complete. Following this, each child read his own words telling about the item he had selected for the chart. Later, all the children were encouraged to read all the entries.

Miss Sullivan began the long-drawn process of teaching her pupils to read by carefully building a readiness. Each child was guided to choose from the range of possible objects on the farm one that interested him, one he *wanted* to think about. In order to record and repeat his contribution it was necessary for him to gain fluency in it through learning a new skill; an ability to read the symbols of ideas.

Of course, this first-grade group did not stay at the level of reality materials. They had experiences at other levels represented on the Stairway. They drew pictures and helped make the experience chart. They connected the symbols of their words with the objects they had seen and selected for attention. *Good teaching uses a variety of materials at different levels of abstraction, in the same learning experience, flexibly going up or down the Stairway.* It is an error in the teaching-learning process to remain "stuck" at any one level of abstraction, never probing into other levels to expand ideas and meanings. This error is all too common in education from kindergarten through college, with almost every grade level above third grade hastening toward symbolic materials, only to remain fixed there.

It is obvious that drives, needs, sets, etc., continue to play a part in the learner's motivation at all levels. But the later steps may never fully be reached unless the *beginning* step is richly surrounded with meaning. This is a necessary prerequisite of long-term learning.

We chose Miss Sullivan's first grade for our illustration. To prevent any misunderstanding, it must be noted that readiness and reality materials are not the exclusive property of first graders. *These are elements of any new learning experience for learners of all ages,*

if meaning is to be attached to the learning. In like manner, other processes “inside the learner,” to be noted at higher steps on the Stairway, play a part at the first-grade level. The important idea to keep prominently in mind, while examining the Chart and reading these pages, is that the “inside” processes stressed at each level are of prime importance at that level.

Manipulative Materials

As we have already pointed out, reality materials offer several impasses for the teacher who would bring students close to tangible things in their learning experiences. Manipulative materials offer an extremely convenient way to make learning projects substantial. They represent segments of phenomena in real life and are extracted from the phenomena they typify. The range of available materials that lend themselves to handling, observing, inventing, and trying is great, indeed. They may be set up in the classroom and modified at will. The availability and usability of these materials in a growing number of schools have done much to promote the idea of the ordinary classroom as a “learning laboratory” where students can experiment with things relevant to ideas, test hypotheses, and draw conclusions.

Types of Manipulative Materials

So large is the number of manipulative materials available to schools that it is possible here to suggest only a few, listed by types. Fortunately, explicit information regarding these materials is available in the literature of education and can be had for the expenditure of a modicum of library “digging.”

DEMONSTRATIONS

Teachers have long used demonstrations as a way to present visualized explanations. The traditional *chalkboard* is an irreplaceable convenience for drawing or writing salient points in an oral explanation. Students, too, can use the chalkboard for “working out”

ideas in writing. Somewhat like the chalkboard, *apparatus* can be used to concretize points made during a teacher's descriptions. The use of ovens, sinks, and foods in home economics, or test tubes, retorts, chemicals, and Bunsen burners in chemistry has been witnessed by most college graduates. *Feltboards* (or *flannelboards*) are used in describing number processes in arithmetic. Fractions can be visualized by taking away or replacing fractional parts of a circle, and other arithmetical operations can be performed by manipulating pieces of felt prepared in advance to illustrate the process in question. Felt or flannel pieces adhere very nicely to a large background rectangle of felt, and are convenient for explaining arithmetical processes, or any other process dealing with quantitative symbols.

EXHIBITS

Like demonstrations, exhibits are "old hat" to school people. Teachers have long helped students *display* the products of their school work for themselves and others to observe. Some schools have arranged classroom "museums" by having interesting objects brought from the home or community. The *bulletin board* is frequently used as part of a display to exhibit murals, paintings, or written work. These "home-made" exhibits are of the best type because they tend to involve the learner in the objects exhibited. Another type of exhibit, different from the ones just suggested, is the *loan exhibit*. Materials to be exhibited can be obtained, usually merely by request, from public museums or agencies, civic organizations, and commercial firms. For instance, the State of Illinois has a mobile exhibit of native wildlife mounted in a special bus, and a "bookmobile," similarly equipped. These buses will visit schools. Various oil companies will send bottled samples of oil in various stages of the "cracking" (refining) process to schools. And if museum exhibits cannot be sent to the school, the students can go to the museums, where they are always welcome.

In one way or another, dramatizations are not new to schools, either. Dramatizations are manipulative materials which make it possible for students to observe things that they cannot experience in any other way. By producing a *play*, students can participate in and observe the feelings of other people. *Puppetry* has been rediscovered by teachers and makes possible the involvement of the stu-

dent in a study of the actions and thoughts of "pretend" characters. Of more recent vintage is the use of *sociodrama*, or extemporaneous role-playing. A sociodrama is generally short, lasting not more than five or ten minutes. A scenario is "talked out" by the class group, involving a problematic social situation. Volunteers play the various roles involved in the situation, behaving in the manner that they believe the real character (if he *were real*) would behave. The class then discusses the scene, analyzing why the characters behaved and thought as they did. All these experiences make possible the manipulation and study of the human equation; a valuable learning not quite possible in real life, and not very direct or personal in pictures or books.

DEvised MATERIALS

A veritable flood of objects may be listed under the rubric of devised materials. Included here are *specimens*, such as those preserved in formaldehyde or on slides for microscopes in science, or other objects that can be used as specimens of any general classification. Then there are globes and planetariums, which numerous teachers find essential in guiding students into an understanding of the infinite marvels of our world and the solar system. More recent additions to the stock of devised materials include the *cutaway*, which is a model of the "insides" of some object (a plaster of Paris representation of a human torso, or a working metal model of a gasoline engine), or an exposed part of a machine; the *mock-up*, which is a representation of some working object, such as a radio station with microphone, control room, etc., which operates only through a schoolroom public address machine, and *scale models* of all sorts of things, biological and physical. The cutaways and the mock-ups have not yet come into extensive use in elementary schools, but in time they may.

Fortunately, some of the very best manipulative materials may be invented, designed, and constructed within the school itself. The long experience of American schools with constructional equipment used by students makes this possible. This observation brings to mind the images of the second grade's grocery store with its paper

vegetables and the kindergarten's tag-board locomotive "big enough to sit in."

Vital and stimulating as these materials are, they still leave much to be desired, and materials represented by the higher steps of the Stairway may make possible student accomplishments not feasible at this level.

Related Processes "Inside" the Learner

Manipulative materials offer the possibility of direct study in a laboratory sense. If they are used in a manner so as to involve the student as a participant, they invite his finding where his talents and abilities lie. He can "try out" and prove to himself what he can do and what he needs to learn. He can use workable objects and manipulate them until the meaning behind his developing skills becomes apparent. He can practice his learnings on tangible things, and practice on something always seems more pointed than just "practice." Of course, practice, or drill, or repetition is essential in school for the refinement of skill in doing. When a student wants to develop a skill, then he can discover the meaning behind practice. And he will perhaps achieve more if his practice is applied to tangible things.

Teaching Arithmetic: An Example

The "meaning theory" of the teaching of arithmetic is one of the most remarkable and influential theories in education to appear in recent years and is discussed in detail in Chapter 11. This theory, concerned with ways of teaching the meaning of our number system as a system, has led to the invention of a large number of manipulative materials to be used for demonstration and student experimentation. One instance was described in this way:

The students in Mr. Brown's fifth grade had encountered several situations in their out-of-school and in-school lives involving the use of arithmetical fractions. In fact, it is rather difficult for almost any child to avoid such situations. It seemed to Mr. Brown that the time was ripe to introduce the group to fractions. He brought to the students' attention a feltboard which had a set of five fractional

disks about 10 inches in diameter. One disk represented a whole and the other four disks were divided into halves, thirds, fourths, and sixths. He demonstrated to the class that fractional parts are always part of one whole by adding to the felt board, one at a time, the fractional parts of each one disk. Several students approached the felt board to manipulate the disks' fractional parts. He then gave each student a corresponding set of disks about 3 inches in diameter and mentioned that they could use them to solve some problems in fractions, without using pencil and paper to "figure."

Mr. Brown orally presented some problems, and then the students suggested other problems. Other means were used to show the same things that had been demonstrated with the original disks. Sheets of paper were folded to show halves, thirds, fourths, and sixths.

The next step consisted of comparing fractions. The students chose various fractional parts to compare, and observed the comparisons. Several students arranged the fractions according to size in the following order: $1/2$, $1/3$, $1/4$, $1/6$, $1/8$. They discovered that the larger the denominator, the smaller the fraction. They had arrived at a concept, and a generalization from manipulative materials.

Finally, some students made written records of what they had discovered.

The students in this case used the materials for study indicated in the learning task, for practice, for development of skills, and, it may be hoped, for exploration of their own talents and abilities. They did not remain "stuck" on the level of manipulative materials. Some of them made records of their findings by the symbols of writing: $\frac{1}{2} + \frac{1}{2} = 1$, $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$, and so on.

It should be noted that manipulative materials are usually three-dimensional. Also, they tend to be "scaled," either conveniently larger or smaller than the original. In most cases they are "edited," with extraneous details left out or necessary details added.

Pictorial Materials

Manipulative materials readily lend themselves to an intimate involvement of the teacher and the learner, but the next step is a long one, to things that make observers of us. We are no longer involved with events or ideas that we can do something about; we

have become receivers of communications from other people. If we learn to discriminate between the messages contained in the mass media of communications, and if we develop valid criteria that will enable us to become selective "receivers" of the messages, then we can make effective use of the ideas communicated. One generalization that may be found on the first page of this chapter applies with particular force to pictorial materials: "The school's central task is to help each learner discover the *meaning* of the things he learns. But there is no way in the world to *give* meanings to the learner." He must discover them for himself.

Pictorial materials are highly abstract representations of objects and ideas in the real world. In almost all cases the producers of the materials have, necessarily, been extremely selective in choosing ideas and concepts to communicate. If the receiver of the communication (the student) is to use these materials successfully, he must learn to regard them critically and with a thoughtful mind. The student might do well to remember that even an ordinary snapshot cannot possibly record a whole panorama. It selects that part which falls within the angle of its lens. Something is included, but much is left out. The learner is now in the position of having to think about the producer's reasons and limitations in abstracting and communicating the idea in the first place, as well as about getting his own ideas from the communication.

Types of Pictorial Materials

Pictorial materials include many of the mass media of communication, and the characteristics of these are well known to almost everyone through every-day living. Much description of these technical media would be beyond the scope of this chapter, and surface "telling" about them would be useless. It will serve our purposes if we simply call attention to the different kinds of pictorial materials available to schools and teachers and make a few casual comments while doing so.

One group of pictorial materials may be constructed by teachers and students, in addition to being commercially produced. These are *maps, charts, and graphs*—highly abstract "pictures" of territories,

locations, quantitative data, relationships among individuals within an organization, sequences of events, ingredients in a product or process, and the like. Charts, maps, and graphs make use of symbols, which compress meanings. They are almost purely symbolic materials, but retain some of the literal quality of pictorial materials. One characteristic that all three share is that the student must learn to "read" them if he is to get meaning from them. If they are not read, the result may be positive miseducation. A good example of this may be cited from the use of flat maps. Every flat map contains a distortion of some kind. The Mercator projection is probably found in more classrooms than any other type of map. It was never intended for schools, but many students have graduated from our schools with the firm impression that Greenland occupies the same land space as South America. A quick reference to a globe will reveal that South America is actually nine times as large as Greenland. Polar projections introduce even more distortion. The solution to the trouble may be to let students know what flat maps really are for, and to make constant reference to a globe. Having students study and construct their own maps, charts, and graphs is an excellent way to help them learn the "language" of these devices.

Still pictures, radio, and recordings may be classed as pictorial materials.

Still pictures, too, must be "read." Are the impressions they convey true? Are relative sizes distorted? Does the picture convey useful knowledge, or is its appeal purely esthetic? Pictures give many cues which the observer must interpret. Can accurate interpretations be made by the students involved? Pictures are of two kinds: projected, and nonprojected. With modern equipment for making one's own 2 x 2 slides easily available, elementary-school teachers and students can select and take their own pictures to be projected. A follow-up discussion of the photograph's selection from the whole field surrounding the camera can be instructive in learning to "read" other pictures.

Radio programs consist of pure verbal or musical abstractions. Some city schools, such as Chicago's, have their own educational radio stations and produce excellent programs. But teachers constantly find good radio programs being scheduled on the "wrong"

day to fit neatly into the classroom program. One good idea is for the teacher to tape record the desired program and play it back to the children when it can be fitted into the program.

Recordings also consist of pure verbal or musical abstractions. Their use is quite similar to radio, except that there is no necessity to meet an "outside" schedule. Tape recordings offer a convenient way to capture unique communications for classroom use. Just as students may profit from sharing in photograph making, there are many good ways in which they can learn from participating in the making of recordings—for example, by writing and reading the continuity.

For more than a quarter of a century schools have used *motion pictures*. The motion picture can visually present processes and events that are impossible to secure in any other way. The time factor in natural events can be manipulated for special purposes. Through changing the speed of the camera, drops of water can be seen to fall and spread, a hummingbird's wings can stand almost still, and a flower, which takes days to unfold, can open in one minute. Bringing "unseen" events before viewers' eyes is one of the finest accomplishments of the motion picture. In addition, important events can be photographed on the spot and reproduced for people to see. The past can be brought visually to the present. Objects can be shown either larger or smaller than they really are.

Research studies have shown that motion pictures are powerful motivators. People learn from motion pictures in less time than from most other sources, and messages communicated through motion pictures are commonly *understood*.

Similar in some respects to motion pictures is *television*. This medium is still in its experimental stage. It made its debut in the 1940's and as yet not very much is known concerning its educational use. Some communications experts regard it as a return to the "oral tradition" in teaching. It is a glittering, fascinating device. Probably the most significant development is the use of closed-circuit television in schools and colleges. Television, commercial and educational, has several advantages, of course. Real-life occurrences can be observed as they happen, as in the televising of some sessions of the United Nations. Television broadcasts incorporate demonstrations,

chalkboards, and models. Kinescope recordings can be made just as motion pictures are made and then reproduced through television. And closed-circuit programs can televise 16mm. films.

New techniques are being developed all the time and probably no one can predict what changes in teaching will ultimately be brought about by television.

Related Processes "Inside" the Learner

Contrary to the impressions some people have, pictorial materials are not concrete and close to everyday experience. For the most part they represent high-level abstractions which must be "read" before the "receiver" can interpret the messages accurately. The notion that they are concrete may be due to other characteristics. Messages communicated through pictorial materials *are* quite specific; they *are* quite literal, and they *are* fairly rigid, resistant to modification by the "receiver." Most pictorial materials cannot portray a quality that has no direct extensional meaning. Earlier in this chapter the observation was made that it would be impossible to make a motion picture of "work." A picture could be made of a man digging a ditch, building a garage, or writing a manuscript. But one could not be made of "work," "play," "happiness," or "intelligence."

Teaching Art: An Example

Mrs. Davis, a sixth-grade teacher, displayed considerable talent when it came to her own creations in art. She had completed a few courses in the fine arts as part of her undergraduate university preparation for teaching, but mostly, as she said, she was a "Sunday painter" and a "do-it-yourself sculptor." What she lacked in formal preparation as an artist she more than compensated for by grasping every opportunity to learn more, for example, by attending night classes in the arts at the local high school's adult education program.

She felt that she could set the stage for children to learn and enjoy art experiences just as she had done. She and the children set up an art corner complete with work tables, art media, and tools. Things would go along very well for a time until the youngsters got to a certain point in some art activities, and then, apparently frus-

trated, they would lose interest and gradually quit working. Mrs. Davis reasoned that they were probably ready to learn more advanced techniques, which she did not know how to teach.

This loss of interest became particularly noticeable on one occasion when the class had started to design and make puppets. It had seemed such an entrancing idea to the children to dramatize some of their favorite stories through puppetry! But in spite of an industrious start, the charm seemed to wear thin and little was accomplished.

Mrs. Davis realized that they needed to know the appropriate techniques for making and using puppets. She requisitioned from the state university's Visual Aids Service a color 16-mm. motion picture film produced by Baily Films and titled, "How to Make a Puppet." In her preview of the film she noted that the construction of a puppet head, the design of the costume, and ways to operate a puppet were all stressed. Exactly the points on which the children had floundered! And all included in the film's eleven minutes.

The class saw the film projected, discussed the techniques pictured, and viewed the film again. Later, Mrs. Davis smiled knowingly as she saw the children trying their own versions of techniques graphically portrayed in the film. Before seeing the film the youngsters had been ready to try the "entrancing" idea of puppetry. They had explored and manipulated the materials from which the puppets might emerge. But something had been lacking and the project had become stymied. The film made possible the children's abstracting from the whole enterprise the necessary component of puppetry technique. When this was accomplished and they could think about the problems they had encountered, their frustrations could be resolved, their understandings promoted, and they could gain reassurance for their own ideas. Of course, Mrs. Davis, too, added a bit to her own fund of knowledge.

At this step of the Stairway, the student can extend ideas already in process of formulation. He can refine understandings and enlarge them through seeing their relationship to other situations. He can develop discrimination and appreciation, as indeed he *should* do if he is to be exposed to the media of mass communication. He probably will not—and cannot—go much beyond verbalizing and symbolizing his stock of "reality" concepts brought to his role of observer and "receiver" in the use of pictorial materials. His development of imagination and use of reflective, critical thinking are linked with **the next step on the Stairway.**

Symbolic Materials

Some of the great movements in education have been revolts against a concept of schooling that recognized *only* the importance of insisting that students "master" the ideas and processes of organized adult subject matter. Such insistence conveniently ignored the fact that getting to adult subject matter is a long and arduous process. Also ignored was the fact that some students could not, and others would not, submit to an excess of—for them—meaningless words and symbols. Rousseau, Pestalozzi, Froebel, Herbart, and Dewey argued that the child's education should consist of a planned series of experiences that would lead him toward the achievement of mature mind. Unfortunately, some adherents of the movements sparked by these men became charmed by the earlier stages of this process and forgot that the higher levels of thought ever existed. The effect was that sometimes they froze the child's education at the levels of reality and manipulative materials, never proceeding higher. Recently, a breed of critics of American public schools has become prominent. They insist that the schools are "wrong" if they fail to "train the intellect" and focus strongly on the level represented by symbolic materials (organized "disciplines"), ignoring the lower levels which the critics allege to be "anti-intellectual."

As we have seen, every step on the way to a mature understanding of the verbal-symbolic world in which we live necessitates the achievement of *meaning* for the concepts and generalizations we learn. Learning is a process of deriving meaning from personal experience, not a process of assimilating meaningless words and ideas. This is the goal implied by the Instructional Materials Stairway.

This is the last step. Working with reality materials the child learns the meaning of words that are embedded in first-hand experiences. As his experience widens the words take on new meanings.

With manipulative materials, he practices, experiments, and studies more extensive use of words and phrases. The original reality has been modified through abstraction, but the verbal symbols he learns rest on clear, unmistakable meanings.

When he uses pictorial materials, he extends the meanings of his words and begins to understand the meaning of *communication*.

All this time he has been reading, and he has been encouraged to demand *meaning* from what he reads and hears. For him, reading has become a *thinking* process. He feels comfortable within the symbolic, abstract world, for he understands its meaning. Ideas in print "make sense" to him.

Related Processes "Inside" the Learner

If the learner reaches the higher elevations of this step he becomes cognitively aware of his knowledge. He becomes capable of reflective thinking at a high level. He is "ready" to go beyond sheer accumulation of bodies of systematically organized knowledge and penetrate the fascinating world of creative intelligence. He will display a capacity for:

1. *Abstract thinking at both higher and lower levels:* he will insist that high-level abstractions be referable to abstractions at lower levels.
2. *Imaginative manipulation of problems:* he will try in his imagination many possible solutions for a problem before the more promising ones are selected for "doing."
3. *Intuitions as to predictions and procedures:* he will "feel himself" into exciting and original ideas which may suggest new and different ways to make his knowledge "work" for him.
4. *The recombining of mental images:* he will perceive the ease of mentally playing with abstractions (rather than struggling with the cumbersome weight of the empirical world), and he will make use of that ease to view problematic situations in terms of unusual relationships.
5. *Thinking in areas of the improbable:* when he reaches a mature level of thought he will extend his world of symbolisms into the realm of the unsure and the unknown.

The last point deserves a word of comment. Unqualified accumulation of established bodies of knowledge, however vast, and rigid adherence even to the limits of statistical probability, confine thought to the *status quo* world. Valuable as knowledge of this "established"

world is, by itself it may lead to no new ideas and no further uses of knowledge gained. New thoughts and proposals seem to come from the world of *improbability* rather than from our known world—wherein we can judge what *probably* will happen because it has always happened that way.

Possession of these five capacities will indicate that the learner has developed a degree of mature ingenuity—neither frozen at a lower level of abstraction, nor imprisoned at a higher level by an exclusive diet of bodiless words and symbols. In the schools, and in adult society, we meet many people who exemplify the two extremes of fixation at lower or higher levels of abstraction. First, there are the relatively immature persons, children and adults, who always think in terms of low-level and specific abstractions, apparently unable to use ideas that involve generalizations and classifications. Of course, thinking at this level is arduous, and logical relationships between ideas may not be perceived at all. Persons who have never learned to solve numerical problems without counting on their fingers provide a good example of what it means to be frozen on lower levels of abstraction.

Second, and equally rigid, are those persons who have adopted the style of higher levels of abstraction, who seem to think in general terms and symbols, but who seldom can point to clear examples of their generalizations. People who can theorize on what is wrong with politics, medicine, education, and the nation's economy, without being troubled by any specific information concerning politicians, doctors, teachers, and businessmen, offer a case in point. The person who is stuck on the lower levels apparently cannot get to higher levels because he has never learned how. The person who is stuck on the higher levels is there for the same reason, and both of them are fenced in from understanding the *meanings* of the abstractions they use to conceptualize their worlds. The learner who achieves a mature understanding of systematic generalizations and symbols is flexible in his thought processes; he feels comfortable at all levels of the Stairway and frequently moves from one level to another.

We will not include an example of the use of symbolic materials at this point because the following chapter is devoted to an analysis of our schools' favorite and ubiquitous symbolic material—the textbook. For extended illustrations of teaching and learning at

the highest step of the Instructional Materials Stairway, the reader is invited to read the next chapter. There the use of the familiar textbook, as symbolic material, will be examined in terms of the whole range of materials available to elementary school teachers.

DISCUSSION QUESTIONS

1. Students who want to put to work the ideas that are presented in this chapter would do well to start keeping a scrapbook. Start a collection of quotations taken from newspaper clippings, editorials, children's and teachers' comments, paragraphs cited from textbooks, and so forth, that illustrate in one way or another our confusions between the thoughts we write, read, say, or hear and the actual experiences the thoughts stand for. Words which have a strong emotional charge, such as "stupid," "math," "snake," "trivia," "charlatan," or "Communist Party" are particularly apt to be confused with nonexistent experiences of the writer, reader, or listener.

After a few examples are collected and studied, the student should try to state explicitly what unconscious assumptions about the relations of words to actualities seem to be guiding the writer, reader, speaker, or listener in each case.

EXAMPLE: Washington (UPI)—By-line interview with Vice Admiral Hyman G. Rickover

Q. What is basically wrong with the poor [schools]?

A. Our teachers colleges and state boards of education have been permeated by the "experimentalist" philosophy of education that stemmed from the late John Dewey. This philosophy holds that the main function of schools is to help children "adjust" to life, rather than to impart knowledge to them. It has had a most pernicious influence on school curricula. . . .

Q. Should high schools offer different kinds of training to children who are going on to college, and those who will go to work or get married after getting their high school diplomas?

A. Yes, but this doesn't mean that basic academic studies are unimportant for the non-college group. For all children, the educational processes must be one of collecting factual knowledge to the limit of their absorptive capacity.

Twelve years of public school should provide, for the average and below average student, a sufficiently broad terminal education to fit

him into a modern technological society. For the talented student, it must provide a solid underpinning for subsequent professional education. Neither of these two objectives is now being achieved in the majority of American public school systems.

—Champaign-Urbana News Gazette, June 24, 1955

SAMPLE ANALYSIS: Apparently the words "experimentalist philosophy" describe the workings of all teachers colleges and state boards of education. Query: Does every state have a board of education? Do you know of any teachers college that has been permeated by the "experimentalist philosophy"? Can you state clearly what this philosophy means in practice? Did John Dewey ever write that "the main function of schools is to help children 'adjust' to life, rather than to impart knowledge to them"? Check and find out. Dewey's *Democracy and Education* will help. How are policies made for American schools on the kinds of training to be offered to college- and noncollege-bound children? What is meant by "collecting factual knowledge to the limit of their absorptive capacity"? Can you give specific examples to illustrate how this collecting and absorbing takes place? The newspaper article states that average and below-average students should be fitted into our technological society, talented students should be provided with an underpinning for professional education, and neither objective is now being achieved. How many specific examples can you give to support this statement? To refute it?

Do you think that the Admiral was referring chiefly to the verbal world? To the extensional world? Where on the *Instructional Materials Stairway* would you place his comments? Were both high and lower levels of abstractions used? Make a list of the assumptions you think must lie behind the Admiral's statements. Make a list of the assumptions that guided you in relating the Admiral's words to actualities. Now challenge your list of assumptions.

2. One sixth-grade social studies book ends each chapter with a list of questions for students to answer. For the chapter on France ten questions are listed. Arrange these questions in two groups of five questions each; group one containing the questions at a lower order of abstraction and group two containing the questions at a relatively higher order of abstraction.
 1. What was the greatest difficulty that the early French kings had to meet?
 2. What did Louis XI do for France?
 3. Why was Louis XIV called the Sun-King?
 4. Why is it said that France lies at the crossroads of western Europe?

5. In what ways did Madeleine enjoy herself in her Normandy home?
6. What kind of government does France have?
7. What are France's most important exports?
8. Why is Marseille an important city?
9. Make a list of the largest cities in the northern half of France.
10. Name the African possessions of France.

In the case of each question what words or phrases offered clues that enabled you to put it in one of the two groups? Reword the questions you have placed in group one to make them more abstract. Reword the group-two questions to make them less abstract.

3. Apply the following terms to events in the extensional world; i.e., go down the Stairway to things and happenings these words may point to.

Jurisdictional dispute	Art	Peaceful Coexistence
Philosophy	The Battle of the Bulge	Science
Imperialism	Sputnik	Citizen participation

4. Suppose your class in science comes across the word "drdlom"; what definition would you write for it as indicated by the following quotations? Do not be satisfied with a one-word synonym but write out a complete description.

1. The drdlom is a useful measuring device.
2. Last week I bought a new drdlom and have it at home.
3. The measuring scale of the drdlom is useful in describing natural phenomena.
4. The superstitions of primitive people represented an attempt to explain happenings that the modern scientist explains through use of the drdlom.
5. The drdlom makes possible the gathering of exact data to test hypotheses.

What teaching procedures and what materials would you use to introduce your class to the drdlom, as you have defined it? After you have felt confident that the drdlom and its uses have been understood by the students, what different procedures and materials might you use?

5. Pretend that you are a teacher in the imaginary land of Ozixal, where printing had never been discovered and consequently there are no books, newspapers, magazines, nor typewriters. How would you plan to teach the following concepts? What materials would you use? Relate the materials you select to the Stairway.

isthmus

$$a + b + c = a + c + b$$

1492

national sovereignty

the Pilgrims

mental health

SUGGESTED READINGS

1. Brownell, William A., and Hendrickson, Gordon, "How Children Learn Information, Concepts, and Generalizations," in *Learning and Instruction, Forty-ninth Yearbook, National Society for the Study of Education, Part I*. Chicago: The University of Chicago Press, 1950. This is Chapter IV in an excellent book on the psychology of learning. The book is oriented around the learning process as teachers might deal with it. The entire book merits attention, but Chapter IV is particularly relevant to the use of instructional materials.
2. Chase, Stuart, *The Tyranny of Words*. New York: Harcourt, Brace, and Company, 1938. This book is instructive and fascinating. It reads like a "who-done-it," as it reveals the unsuspected true nature of words. The reader will gain a new respect for the power of "mere" words in the shaping of attitudes and ideas.
3. Dale, Edgar, *Audio-Visual Methods in Teaching* (rev. ed.). New York: The Dryden Press, 1954. One of the most complete and thorough books on audio-visual materials and methods. Sound educational reasons for selecting and using various aids to learning are advanced. The book is filled with references to sources of teaching materials, but of particular use is Chapter 7, "Basic Sources of Audio-Visual Materials."
4. Dewey, John, *How We Think*. New York: D. C. Heath and Company, 1933. A careful analysis and synthesis of the thinking process. This volume was first printed almost fifty years ago, and revised in 1933. It still remains one of the most valuable references on the topic expressed in its title.
5. Hayakawa, S. I., *Language in Thought and Action*. New York: Harcourt, Brace and Company, 1949. An absorbing book which is written in amazingly clear prose. The author points out the "booby-traps" which clutter our language—and deftly side-steps them in his own writing. Highly useful for those who wish to understand the impact of our language on our thoughts and actions.
6. Horn, Ernest, "Language and Meaning," in *The Psychology of Learning, Forty-first Yearbook, National Society for the Study of Education, Part II*. Chicago: The University of Chicago Press, 1942. This chapter is a small classic on the dynamics of getting meaning from language. Professor Horn reports research studies performed by himself and his students and casts needed light on problems of "meaning."

Use of the Textbook*

OUR APPEALING and altogether praiseworthy textbooks carry with them deep and unresolved problems related to their use in the teaching-learning process. Probably no one would deny that the modern elementary-school textbook is vastly better than its predecessor of even a few years ago. Textbook publishers today use fresh devices to gain and hold attention—color, legible type faces, attractive format, more frequent and more imaginative illustrations, and the like. Textbook authors make extensive use of the results of research studies on vocabulary and readability. But all these mechanical improvements, by themselves, furnish little help in answering fundamental questions concerning the *use* of text materials in teaching.

Nor have the students of education contributed much valid information to the problem of usage. It seems strange that a profession given to the serious study of almost every conceivable important and unimportant problem should virtually ignore sustained

* AUTHOR'S NOTE: A list of "suggested readings" does not follow this chapter. The omission of readings is intentional. Two reasons may be given to explain my decision not to include additional references. In the first place I am not acquainted with any recent books addressed to the pedagogical use of the textbook. In the second place the periodical literature and the occasional chapters of books that present some material dealing with the textbook would not greatly extend the analysis contained herein. Rather, you may gain more from thinking and discussing relevant problems with teachers and students.

inquiry into the pedagogical uses of its one ubiquitous material, yet inspection of the literature of education leads to the conclusion that this is the case. The literature also shows that teaching methods associated with question-and-answer recitation, based on pupils' previous reading of a textbook assignment, have been criticized for more than a century. For more than two decades "textbook teaching" has been an approbrious term. New teaching techniques have grown out of the numerous teaching media loosely grouped together as audio-visual aids, and the textbook has, in effect, met a series of competitors. Departures in curriculum organization which are incompatible with the textbook's foreordained pedagogy have empirically proved at least partially effective, and have, consequently, loosened the dominant hold of the textbook. The textbook situation is, therefore, one wherein reasonable questions about its efficacy in teaching exist, but do so amid unsettled conditions and unconvincing evidence. The textbook publishers indicated perplexity concerning this state of affairs when they published an explanation of the role of the textbook publishing industry:

Are the authors [of the textbooks] most of them leaders in education, and the editors who work with them mistaken in [their] conception of the role of the textbook?

Unfortunately, we have little scientific evidence to support their convictions. However, those who oppose the use of textbooks are in the same position. They, too, lack scientific evidence to support their views.¹

Simple acknowledgement of an impasse apparently is not sufficient to resolve it. However, the publishers do not leave the issue at a stalemate. Elsewhere in their book they present a definite point of view on the use of the textbook in the teaching-learning process, although without benefit of scientific evidence.

Probably the many issues involved in the use of the textbook will yield only as relevant data are collected on the nature of the problem and as competent studies are forthcoming. Some questions will best be answered through classroom experimentation and invention, others can be approached through judgmental procedures, and still others will lend themselves to systematic, controlled researches

¹ The American Textbook Publishers Institute, *Textbooks in Education* (Chicago: The Lakeside Press, R. R. Donnelley and Sons Company, 1949), p. 7.

A reasonable beginning step in this direction is a description of alternative positions on the textbook's pedagogical role. There seem to be three distinct and divergent ways to "see" the textbook in teaching.

Assistant Teacher in Print

The first of the three points of view holds that the textbook is actually a complete teaching-learning situation in print. It is not in any sense merely another book but is a carefully, deliberately designed kind of book intended for specific school use. The textbook is put together around a homogeneous set of teaching aims, concept sequence, techniques of motivation, developmental pacing, content selection, ideas for class activities, and provision of or suggestions for related visual aids. Those materials and teaching techniques that cannot be put into the textbook are included in the teachers' manual which accompanies most textbooks. The textbook intentionally embodies both the content and the method for a particular graded course of study. For elementary schools single-volume texts are seldom produced. Instead, one book is divided into eight volumes, one for each of the first eight grades. The eight volumes are conceived as a complete instructional program in a subject area. One arithmetic series, for example, contains about 2500 pages—pictures, problems, diagrams, and almost half a million words. Thus, the book is built around studied procedures which not only offer a blueprint for day-by-day teaching but solve the problem of long-range sequence in learning as well.

The textbook publishers visualize their product in these terms and so do some educational theorists. Because the publishers must gauge their market in terms of estimated demand, it is reasonable to accept their picture of the product as representative of the most popular position on textbook usage.

The modern textbook is more and more thought of as an "assistant teacher in print." It is the author's effort to enter the classroom as personally as the pages of a book will permit. He sets up as clearly as possible

the aims which his teaching is to accomplish—whether to develop skills, understandings, or attitudes, or some of all three. Then he draws on all his experience as a teacher to meet the goals he has set for himself. . . .

He thinks . . . as a teacher, and uses in his book all the materials he would use if he were in the classroom. And those materials that cannot be put into a book he includes in his suggestions and directions for class activities—additional reading, reports, discussions, field trips, exhibits, dramatizations, research. . . .

This calls for no sacrifice of responsibility on the part of teachers. With all they have to do, there is no reason for them to plan the organization of the course in detail. The author of the textbook can do that for them. There is no need for them to think up all of the precise instructional language required for the teaching of mathematics, or science, or English. Nor should they have to rely entirely on their own resources for the planning of class discussions, practice materials, projects, activities, further reading. The author of the textbook can do these things for them and probably better than any but the ablest teachers can. . . .

Thus do an increasing number of textbook authors conceive of the nature and function of the textbook they attempt to write. And textbook editors increasingly share with them this conception.²

It seems fair to ask who the “assistant teacher” turns out to be within this concept—the teacher or the textbook. However, this question is one properly related to actual classroom practice and therefore will be explored later in this discussion. For the present, our task is the explanation and delineation of the point of view.

So far as the teacher is concerned, this concept of the role of the textbook is a relatively mechanistic view of the teaching-learning process. The teacher seems to be regarded as the gatekeeper of the textbook, performing those functions that printed materials obviously cannot. This point of view visualizes the textbook as a specially made teaching tool that can solve most crucial problems and make most really important judgments for the teacher. Solutions are offered in the troublesome pedagogical areas of curriculum construction, child development, teaching methods, and content selection. The teacher has only to follow the textbook's built-in sequence and determine time allotment. Poor pupil-learning is assumed to result chiefly when the teacher upsets the intended sequence of construct-building, fails to accept the textbooks' aims, or does not use the full range of enrichment prescriptions.

² *Ibid.*, pp. 5-7.

Pupil's Guide to Course of Study

The second point of view "sees" the textbook more or less as a general outline for a course of study, rather than as a complete teaching-learning situation in print. While holding to some of the first view's assumptions, particularly that the best arrangement of content for learning is the subject-field organization, it by no means accepts all of them as valid. It ascribes a far more important and decisive role to the teacher. Granted that the textbook selected is in close harmony with a given local course of study, this view throws a different light on what the textbook is and what it can do. In discussing this matter, one educator¹ has identified four gross characteristics and possible functions of the textbook.

In the first place, it furnishes an outline of the course of study as a whole to both teacher and pupils. This aids in placing each unit in perspective. Presumably, the teacher and pupils can themselves plan more intelligently the allotment of time to the different topics or problems.

Second, it gives an overview of the topic or problem under consideration and provides each pupil with a limited amount of information concerning it. The textbook's general statements afford a sort of framework to be filled out and perfected as the student proceeds in his learning.

Third, it makes possible definite and systematic assignments. Of considerable importance is the ease and effectiveness with which collateral readings can be related to topics under consideration.

Fourth, it is useful for purposes of summary and review. After more detailed references have been read, after class discussions, excursions, constructive activity, or the use of audio-visual aids, the textbook should prove a valuable aid to the pupil in the organization and validation of the conclusions he has reached.

The textbook is seen as a necessarily generalized and sketchy outline of a course of study. Used by itself, or even in conjunction with prescribed further readings and activities, it lacks a valid and vivid sense of reality and may result only in mere verbalisms and

¹ Ernest Horn, *Methods of Instruction in the Social Studies*. New York: Charles Scribner's Sons, 1937, pp. 218-20.

formal learning. The outline, which is the textbook, must be greatly enriched, extended, and deepened through oral instruction, visual aids, constructive activities, firsthand experiences, and collateral readings. Writing on this subject, Horn made the point explicit:

Only to a limited degree can meaning be attached to abstract and general statements when read by students whose experience does not include the concrete and specific details out of which the generalizations may be built. A knowledge of the details that are essential to the formulation of an idea is the *sine qua non*, and in furnishing this knowledge, collateral readings take an important, if not the preeminent place. A volume may be devoted to a topic that the textbook treats in a chapter or even in a paragraph, so that it is possible to expand the discussion greatly, as well as to include authentic incidents, anecdotes, pictures, maps, and diagrams for which space cannot be found in the abbreviated text.⁴

Within this concept of the textbook the teacher seems to play a far more determinative role than is expected of him in the previous concept. To be sure, he begins with a predetermined course of study but his primary focus is on the pupils' development of valid and usable generalizations within the subject studied. The textbook becomes a general guide, secondary in importance to the wealth of collateral reading materials, pictorial materials, and firsthand experiences available in any subject field. The fact that such materials are lacking in many American schools does not nullify this concept as to what the textbook can contribute to desirable learning. Obviously, no textbook can provide either the detailed information desirable or suggestions and sources for the full range of materials and experiences necessary to the building of complete understandings. Only a teacher can assess the wide range of abilities and understandings which normally exist in any one classroom. Thus, the teacher becomes the important determiner of actual pedagogical procedures, using the textbook only as a general guide or chart to indicate directions to be taken.

This is a less mechanistic view of the teaching-learning process than the first. While the "assistant teacher in print" concept stresses the necessity of the textbook's supplying all the detailed instructional language, class activities, and the like, this second point of view

⁴ *Ibid.*, pp. 230-231.

explicitly rejects textbook detail as being abbreviated and generalized in nature, not capable of building rich understanding in the learner. The textbook is useful in furnishing an overview of the course, but the teacher must be ready to choose from a large number of teaching techniques in order to invest the course with meaning for the learner. However, the concept of the textbook as the "pupil's guide to the course of study" assumes the desirability of subject organization, adult specialist selection of content-to-be-learned, and adult-determined methods of investigation. In these respects the two views of the textbook do not differ significantly. But in all other respects there is wide divergence of opinion. The two opinions seem to polarize around differing concepts of the teacher's role. The first would restrict the teacher to a rather complete, predetermined selection of what is to be learned and how it is to be learned. The second would modify such restrictions and insist that the teacher make many pedagogical decisions, using the textbook in certain generalized fashions only.

Reference Book for Pupil

The third point of view is still further along the route toward basic disagreement with the "assistant-teacher-in-print" concept.

The textbook, according to this school of thought, is simply a cyclopedic book containing authoritative information in certain branches of knowledge. It is identical with any other book of a factual or specialized nature suitable for pupils of varying abilities. It should be used as a library reference to help fulfill some purpose of the learner. Like other library references, it should be used selectively to aid in some learning project which has grown from sources outside the book itself.

The course of study, or curriculum design, compatible with this point of view is determined through reference to the particular pupils involved in any learning situation—their needs, interests, developmental levels, and the changing demands of their society. Teaching methods and techniques are a function of this emerging curriculum design and must be flexible enough to permit maximum adaptation

to the highly individualized and changing needs of widely differing groups of pupils and communities. Obviously, neither the content nor the teaching methods for this sort of particularized curriculum can come from any standard book prepared for teacher and pupil use. The pedagogical outline and the methodology of the textbook therefore cease to exist and it becomes merely another book.

This position has been expounded in a number of educational publications since 1920. The 1934 yearbook of the National Society for the Study of Education presented a discussion of the development of the activity curriculum in New York State. While concern with the problem of the textbook was almost nonexistent in this publication one clear observation was recorded:

As the program gradually expands, certain major trends become apparent in it. Among these may be mentioned . . . wider use of library books while regarding the textbook as a reference.⁵

Other trends noted had to do with emphases upon actual experiences of children, closer contact with the actual environment as a source of materials, and the use of constructive activities as integral to work in the classroom. Although these trends were noted in relation to the activity curriculum, it might be observed that other educational viewpoints also tend to see the textbook as a reference book.

A more recent school survey report, not assuming the existence of any pure example of a concept of curriculum in the schools surveyed, contained recommendations concerning the textbook which seem to reflect the "reference-book" attitude:

With regard to the selection and use of textbooks it is recommended that:

1. Greater effort be made to develop learning situations in which textbooks (as well as other books and instructional materials) would be used as tools for solving problems and as sources of information needed to advance learning activities, rather than as selected bodies of subject matter to be mastered merely for their own intrinsic value.
2. Teachers rely less on the textbook as the sole or principal tool of instruction.

⁵ National Society for the Study of Education, *The Activity Movement*, Thirty-third Yearbook, Part II Bloomington, Illinois: 1934, p. 115.

3. Textbooks be selected in terms of needs and interests of pupils rather than in terms of content outline in courses of study.
4. The present procedure of system-wide adoption of textbooks be discarded and the responsibility for selecting textbooks be delegated to individual schools.
5. Fewer large sets and more single copies and very small sets of textbooks be purchased. Efforts should also be made to obtain textbooks with variety both in content and in level of reading difficulty.
6. Textbooks which are outdated, unsuited to needs and interests of pupils, or in poor physical condition be discarded. This should be done regularly.
7. Arrangements be made for teachers and pupils to requisition textbooks as the need for them develops. This will require greater flexibility in the administration of the budget and will eliminate the present practice of requiring teachers to order the textbooks they think they will need for an entire year in the preceding spring.⁶

The use of books, including textbooks, as sources for information and ideas only, implies a dominant role for the teacher. The teacher is the guide, the determiner of the learning environment, through whom the important educational decisions and choices are focalized. The absence of a prearranged course of study or of its counterpart, the textbook, places on the teacher the responsibility for pedagogical choices otherwise made for him. Within this concept of the educative process neither the overview of a selected course of study nor the details of teaching method can be determined without considering the specific pupils to be educated. Involvement of the pupil in basic choices concerning his own learning precludes making the important decisions on what is to be learned and how it is to be learned without his active participation. The textbook must therefore be rejected as either a determiner of complete teaching-learning situations or a general source guiding the development of the course of study.

It is important to note that the textbook is put to a completely different use from that in either of the first two positions described. It seems that the "reference-book" viewpoint advocates using selected

⁶ The Institute of Field Studies, Teachers College, Columbia University. *The Report of the Survey of the Public Schools of Montclair, New Jersey*. New York: The Institute, 1948, p. 692.

bits of subject matter from textbooks while ignoring both the general and the specific methodology around which the particular book was built in the first place.

It is now appropriate to ask some fundamental questions: Is it educationally feasible to derive three divergent modes of the teaching-learning process from a single specific kind of book? Can this one instructional tool be made, by differences in use, to serve equally well three different pedagogical approaches to school learning? To explore these questions, it should be useful to examine some material on actual classroom uses of textbooks, and some material on teaching method.

Patterns of Textbook Use

In order to think about the ways textbooks are used in classrooms it is necessary to locate a scheme of classification that can apply to the employment of textbooks in teaching. Such analyses are extremely scarce in the educational literature. However, one attempt in this direction was made in a study which grouped textbook uses into three categories. Representative schools throughout New York State were involved in this study. An analysis of the ongoing uses of textbooks was made. Labeling the three categories as Formal, Less Formal, and Informal, the study ran each one through ten questions on teaching practice. This device furnished some evidence that whole clusters of discrete practices accompany each general way the textbook may be used. It was found that teaching associated with formal use of textbooks called for the least imagination and adaptation to needs of the pupils and that the uses identified as informal provided for maximum adaptation. Results of the study appeared in a New York State Education Department bulletin, Informal Teaching Series, Circular 3, *The Use of Textbooks*.

For purposes of this discussion, the chief characteristic of each

* Data from this study may be found in A. S. Barr, William H. Burton, and Leo J. Bruckner, *Supervision*, ed. 2, New York: Appleton-Century-Crofts, 1947, pp. 450-453.

category in the study has been selected. Thus, Formal teaching refers to the use of a single textbook for the subject, assigned to all pupils in the class simultaneously. Less Formal teaching refers to the use of different textbooks by different groups of pupils in the class. Informal teaching refers to the use of many textbooks at the same time, depending upon ability and interests of pupils. Presumably, these three types of textbook use represent the entire range found in New York State. Without doubt there are many variations on these three themes, but it is probable that the three express the central choices to be found in practical teaching situations.

It should be noted that there are strong points of similarity between the three categories of textbook use in the New York study and the three more theoretical positions on textbook use developed earlier in this chapter. The single-textbook-for-the-subject category seems to be in harmony with the assistant-teacher-in-print concept; the use of different textbooks by different groups of pupils seems to have something in common with the pupil's-guide-to-the-course-of-study idea; and the use of many textbooks at the same time seems to be identical with the reference-book point of view.

Single Textbook for Subject

The use of a single textbook includes a variety of practices. They extend all the way from use of the textbook with virtually no other instructional material introduced to enrich assigned lessons, to use of the textbook supplemented by collateral readings, motion pictures, and constructive activities. The selection of practices in any particular case depends on the degree to which the textbook determines the teaching plan and consequently on the degree to which teachers and pupils do not participate or take responsibility for planning what is to be learned or how the learning situation is to be organized. Parenthetically, it should be stressed here that the boundaries between all three types of textbook use may be located through reference to the crucial issue of how the teaching plan, the content, and the organization of learning experiences are determined.

The New York study found that teaching practices based on the single textbook for the subject tended to follow a cluster of practices planned by and compatible with the book. Adaptability and variability were limited to relatively slight alterations of the content and method written into the book. Very extensive adaptation to particular pupils and communities was not characteristic of teaching centered on the single textbook, but it was noted in relation to the use of different textbooks by different pupils, and even became central to teaching that employed many textbooks at the same time.

It does not, therefore, make a definitive difference whether the single textbook is used alone or in conjunction with collateral readings, audio-visual aids, excursions, constructive activities, and the like. For purposes of definition the difference lies in the degree to which the textbook performs the planning for learning activities, or the degree to which the teacher does the planning, or the degree to which the teacher, the pupils, and local community adults determine plans related to the what and how of learning.

And the single textbook for the subject does seem to have a pervasive tendency to organize the lessons. This tendency was noted in a professional yearbook:

The textbook differs from other types of material aids to social studies instruction in the extent to which it determines the purposes or goals of instruction. Through its method of development, its pictures, its study exercises, its directions for supplementary pupil activities and its suggestions to the teacher it also wields a powerful influence in determining method.⁶

Textbook publishers and authors deliberately design textbooks to determine the goals and methods of instruction. From their point of view the preceding definition offered in the National Council for the Social Studies Twelfth Yearbook is accurate and represents their intent. The publishers write:

[The textbook author's] book consists not merely of what he believes should be said to the pupil in meeting the teaching purposes he has set up; it is also a guide to detailed classroom procedure, showing teacher and

⁶ Anna Clark Kennedy and Fred B. Painter, "Materials for the Social Studies Program," in *The Social Studies in the Elementary School, Twelfth Yearbook, The National Council for the Social Studies*, Washington, D. C.: The Council, 1941, p. 123.

pupil alike what he believes should be done in addition to the reading and discussion of the text—and how it should be done.”

The teacher-proof textbook does, of course, have a logic in some circumstances. The teacher who is unsure in certain subject-matter areas, whose own learning falls far short of knowing what to teach and how to teach it, may recognize a sharp need to depend on the thinking of a textbook author. The recognition of such a need does not imply an acknowledgment of weakness; it may simply represent a better choice than offhand and hasty preparation.

Comments on Single Textbook Use

The practice of teaching from the single textbook for the subject, that is used by all pupils in the class simultaneously, represents most teaching at all educational levels from first grade through college. It seems unnecessary to recount the many ways in which such a practice runs counter to valid knowledge about the educative process. And even the textbook publishers tacitly admit that “the ablest teachers” would prefer to do the job for themselves. So the argument for teaching from the textbook really ends up by being a defense on the basis of exigency and not on the basis of the best knowledge on learning. Exigency of the moment presents a practical argument which merits serious consideration from everyone concerned with textbooks and education. But this is something quite different from the effort to justify single textbook teaching in general, on educational grounds. The disparities between this view of teaching and other views no doubt gave rise to the next general way of using the textbook.

Different Textbooks Used by Different Pupils

Provision of different textbooks for different pupils frequently is justified on the grounds that instruction may more closely be adjusted to the wide range of abilities, interests, and needs normally present in any classroom. It is also defended on the basis of increased

⁹ The American Textbook Publishers Institute, *op. cit.*, p. 6.

opportunity for the teacher to evolve wider and more flexible teaching plans. Within these instructional goals there probably exists a greater number of variations in practice than exists within the first type of textbook use. But the essential features may be distinguished by determining the extent to which the teacher perfects a teaching plan capable of embracing the different plans of different textbooks.

This general procedure necessitates the subgrouping of pupils in the class according to ability or achievement levels, interests, friendship preferences, and other bases. It is most frequently seen in primary reading instruction where pupils are grouped according to reading ability. Three or more groups may be formed, each group using a different book. Sometimes a group may be reading from a book that is two or more grade levels above or below their normal age-grade readers. These primary groups are distinctive in that they do not necessarily have anything in common and the teacher may do nothing beyond following the pedagogical plan of one or more textbook series. In this case he has probably adjusted the textbooks closer to children's reading abilities but essentially is doing single-textbook-teaching multiplied by the number of groups he has.

Exclusive of instruction in reading at the primary level, however, the problem becomes more extensive. Subgrouping his pupils on the bases of ability, interests, friendship preferences, and the like, the teacher strives to develop points which the groups have in common. This makes necessary some sort of instructional organization more comprehensive than that found in any one textbook. Frequently a subject-unit method of organization is found workable. Pupils are assigned, or select, some topic or aspect of the unit on which to concentrate and are provided textbooks appropriate to the topic and within their range of ability and comprehension. Communication among the groups relative to their findings is promoted. Obviously, if this procedure is followed, textbooks must be adapted and used selectively. The point of view behind multiple text use is clearly stated in a book addressed to student teachers:

Every elementary school has provided in some way textbooks for the children's use. These materials are usually written around subject areas and are graded according to what the authors presume is suitable for children at a particular level of intellectual development. Each textbook is made to serve large numbers of children in different parts of the country:

it cannot be made with a particular school in mind. Therefore, it becomes the responsibility of the teacher to adapt intelligently the use of textbook materials to the group whom he teaches. Some textbook materials may be suited to the needs of the whole group; but, for the most part, such books are best used in modern schools in small sets for committee group work or individual reference. They can be used most functionally if the teacher and the children select out the portions that serve their needs and if they use these materials as references and sources of help rather than as something to be followed slavishly page by page from cover to cover. Neither is there anything sacred about grade placement of these materials. To use materials either above or below the indicated grade level is defensible practice.¹⁰

Practices based on the foregoing point of view tend to stress variation in amount of work for different sections of the class, variation in the kind of work for different pupils, and mastery of the tools of learning as the goal.

Comments on Multiple Textbook Use

The strength of the multiple textbook approach is that it puts the teacher and pupils closer to the heart of the educative process. A pedagogical plan must be evolved, methods of work suitable to each subgroup must be decided upon, and findings independent of the confines of any one textbook must be communicated.

But a valid question may be raised as to how purposefully textbooks can be used when teachers and children "select out the portions that serve their needs," particularly when grade placement is ignored. Most textbooks are built on their own sequence, in relation both to the series and to the individual volume. Information depends upon previous information for its supporting explanations. Textbooks are not intended to be used selectively, and isolated portions may not contain a sufficient number of details and supporting facts to stand alone.

Other questions may be raised in relation to several characteristics of textbooks that have been noted by many students of pedagogy. Most textbooks are intended to promote learnings in subject areas: Are they easily adaptable to other organizational patterns for

¹⁰ James B. Burr, Lowry W. Harding, and Leland B. Jacobs, *Student Teaching in the Elementary School* (ed. 2). New York: Appleton-Century-Crofts, 1958, pp. 333-334.

learning? Most textbooks deal with topics remote from the experiences of children: Would children make more sense from several remote topics than they can from one? Textbooks are written around authors' generalizations, and solutions to problems are ready-made: Is there any educational gain from a plethora of solutions and a scarcity of knowledge as to how solutions might be sought?

It might be, and often is, argued that students profit from studying conflicting viewpoints and should read many books on the same subject as a way to stimulate thinking. In the case of textbooks this argument probably has little force. Most textbooks are far from the arena of controversial opinions. They are carefully designed to avoid stirring up opposition from any potent group with an ideology of its own. The textbook industry produces different versions of history textbooks for use above and below the Mason-Dixon line, and special editions of many textbooks for use in Catholic parochial schools. The differences in points of view which students might discover in textbooks probably would not be colorful, to say the least.

The use of different textbooks by different pupils does have its net gains. Reading material may be adjusted to the reading abilities of pupils in a much more realistic fashion than by expecting all pupils to read at the mythical level of the single grade-level textbook. Of great importance, this use helps the teacher to become the primary selector of learning experiences and the book to become the assistant.

But the questions of hard reality remain. May not the textbook used in this fashion introduce more confusion than clarification? Do children really gain learnings of value and attitudes of endurance from the materials they read? Believing the weight of presumptive evidence on these questions to be negative, some educational theorists and a handful of school systems have dealt with the textbook in still another fashion.

Textbooks as References or Resources Only

References or resources for what? This question leads directly to one outstanding characteristic of the educative process at the third level of textbook use. Printed materials are seen as grist for

the mill of a locally planned and operated curriculum which is adapted as closely as possible to particular groups of children. No single source of printed materials can serve as an educational plan or pedagogical outline independent of the teacher and pupils specifically engaged in the learning process. The order of instructional planning is reversed from the basic controlling concept of the previous two approaches. Instead of selecting the textbooks first and then following or modifying instructional procedures to implement them, a comprehensive educational plan is evolved, procedures are particularized for specific classroom groups, and textbooks and other materials are selected as they may contribute to the realization of broad objectives.

An important book on curriculum development, in discussing the use of textbooks for the development of skills, phrases the matter succinctly:

The materials used for practice will be any which prove helpful in explaining the process and in giving needed experience but will be used in relation to the situation faced and the needs of the learner. Seldom will the sequence in the textbook or workbook be followed from page to page. These materials will become resources, used in the order in which learners need them. Textbooks and supplementary books built to serve as references are needed if the skills are to be developed in this fashion. When pupils have texts in which they can look up the correct form for a business letter or the methods of reducing fractions to decimals, they possess tools which aid immeasurably in their skill development.¹¹

The authors of the statement above imply that present textbooks are probably not quite adequate for the purpose recommended in their statement: "Textbooks and supplementary books *built to serve as references are needed...*" (italics mine). Without quibbling over whether such a change might result in something other than a textbook (a reference book, maybe), the fact remains that schools engaged in implementing highly adaptable teaching do use available textbooks as references or resources only. And such use is defended as capable of producing educational results superior to those accruing from other types of uses.

¹¹ Florence B. Stratemeyer, Hamden L. Forkner, Margaret G. McKim, and A. Harry Passow, *Developing a Curriculum for Modern Living* (ed. 2). New York: Bureau of Publications, Teachers College, Columbia University, 1957, p. 417.

An actual school situation which claims to make this use of textbooks has been reported:

We use no textbooks; instead, we have many books on every level of ability. Each child is able to find something within his ability. There are no arbitrary "grade" standards which pull accelerated students down to mediocrity and pull slow students up toward goals impossible of attainment. We take each child where he is and help him to grow from there. The whole group might be learning about electricity, but some children will be reading primary books on the subject while others will be using advanced encyclopedic material on the same topic.¹²

This statement is open to misunderstanding, and if misunderstood it would tend to cover up a major difficulty which besets schools in Glencoe and other places which attempt educational programs like Glencoe's. The possible misunderstanding is a semantic one, of course, but textbooks are used in abundance in Glencoe schools. Even a casual visit there will verify this statement. Sternig could have more accurately stated, "We use no textbooks as they are customarily used." Actually, all such schools use numerous different textbooks of many grade levels of difficulty in each classroom. But they use them as references and resources. Schools following this concept of teaching, where maximum stress is placed on school-staff and pupil-teaching planning, could not consistently employ textbooks in any other fashion. Textbooks are used as references because sufficient numbers of books on wide varieties of topics and written specifically for children are not otherwise available. This kind of use serves to introduce the question of the textbook's suitability for reference use.

Comments on Textbooks Used as References

All the barriers to selective use of the textbook which were discussed in relation to the use of different textbooks with different groups of pupils apply with even greater force to reference use. Textbooks are built on their own sequence, many topics included

¹² John Sternig, "Curriculum Concepts in a Community School—Glencoe, Illinois," Chapter 8 in Hollis L. Caswell and Associates, *Curriculum Improvement in Public School Systems*, New York: Bureau of Publications, Teachers College, Columbia University, 1950, p. 189.

are remote from the child's world, they are mainly compilations of adult generalizations, supporting detail for generalizations presented is lacking, and controversial matters have their bite removed. Indexes have been improved in recent years. But even when a child finds a topic listed there, he will locate only the most general and fleeting treatment of it. For example, one social studies textbook intended for fifth or sixth grade tells the history of World War II from Hitler's 1939 march into Poland through the Japanese surrender aboard the U.S.S. *Missouri*—in seven pages, including three half-page photographs. The remainder of the book (468 pages) contains twenty-six chapters. It begins with Leif the Lucky and ends with the United Nations Organization. Each chapter tells the story of an era—the Columbus story, the settlement of New England, the War for Independence, the westward expansion, the Civil War, and many others—and averages eighteen pages per era, including illustrations. There are sixteen pages of index and pronouncing vocabulary.

Of course, this is only one book, but it is one of the recent social studies textbooks. It represents the latest in the textbook producer's art, and it is by no means atypical.

Only one conclusion is possible. Textbooks are extremely poor reference books. This should not be surprising. In their production, from start to finish, no one had the slightest intent of producing a book for reference purposes. The intent was to produce what the textbook purports to be—a text or standard work for a particular branch of study, to be used by students. To the publishers' credit, they have never promoted their products as references. To do so would be a misrepresentation.

To complete the picture it is necessary to note that textbooks are not the only items of difficulty encountered when adaptable schools use reference materials. Encyclopedias, while designed for reference, are compact, difficult to read and to understand. For very good and obvious reasons facts are not elaborated or explained. Sources for free and inexpensive materials, such as John Guy Fowlkes' Educator's Progress Service, of Randolph, Wisconsin, are available to teachers. But much of the free material is written for the adult world and is unsuited for elementary school children. In addition, the very abundance of such advertising media creates a sizable prob-

lem in classification, handling, and general bookwork for the teacher. And the ethical problem of introducing commercial materials to the captive audience of the classroom is by no means settled.

Several publishers have produced single-topic books in sets, but their usefulness has been limited by two conditions. In the first place, they present an inventory headache for the publisher and are not highly profitable. In the second place, they are too much like the textbook in style. They are graded in relation to vocabulary, they are almost pure narrative devoted to exposition, and they are a series intended to form another basic course of study. However, they represent a break with tradition and may have high significance in the future.

New single-topic books are becoming available in rapidly increasing numbers from sources other than textbook publishers. Particularly in the area of science are trade book (those books sold in bookstores to the general public) publishers producing quantities of stimulating and authentic books. While the supply of such books is increasing, it still has leagues to go before meeting the demands of children's omnivorous intellectual appetites in adaptable schools. Such schools still suffer from great undernourishment even in the science field.

The Textbook Publishers Institute Modifies a Viewpoint

Perhaps the realization that many teachers no longer prefer to teach from a single textbook caused the publishers to present another point of view somewhat different from the 1949 position taken in *Textbooks in Education*. Early in 1956 the American Textbook Publishers Institute released another volume under the rather assertive title, *Textbooks are Indispensable!* This time they did not mention the "assistant teacher in print" but wrote:

[Textbooks'] use in the classroom program has changed nearly as much as the books themselves. It is harder to generalize about how they are used, though, because even the educators disagree. And, in practice, the way they are used in the classroom depends in large part on the individual teacher.

In some classrooms they may still be prescribed like medicine—so many pages to be "learned" each day. Then the student is expected to repeat what he has memorized on an exam or in recitation. Most adults

remember all too well how this works. The textbook becomes a crutch for the poor teacher and an obstacle to the imaginative teacher who wants to communicate the excitement that new knowledge can bring. . . .

The textbook may be used in a variety of ways to attain different objectives. One method is to make two or more different textbooks available in the same classroom. In this way, each child may find a source book better suited to his level of intelligence and comprehension.¹³

As the publishers expand their views of what the textbook can and should do, the book itself will undergo modification and change. Teachers contribute much to the process of changing the textbook through trying new ways of using it, for the publishers watch the teachers. Yet *Textbooks are Indispensable!* begins with the observation, "Textbooks are one of the burning issues in American education today." Indeed, textbooks and the use of textbooks are in a stage of rapid development. Only first-rate problems are likely to become "burning issues."

These, then, are some of the problems and issues concerning textbook use in three modes. The issues are not of the same value in all of the cases. And they each involve a different variable. Yet they are all wrapped, to some degree, in the controversy over textbook use which has grown in intensity over the past century. The nature of this controversy is important to the future of schools and textbooks in America.

Nature of Textbook Controversy

Undoubtedly, much of the textbook controversy has been a direct result of publishers and one camp of educators taking a firm stand and asserting that textbooks are all good and the sole path to educational salvation, while an opposing camp of educators has solemnly proclaimed the textbook—any textbook—to be all bad and a too-enticing path to educational perdition. The textbook has been seen as both a panacea for and a cause of pedagogical problems; as an example of creativity and an evidence of stagnation; as a liberating and a restricting force in pupil learning; as a stimulant and a

¹³ The American Textbook Publishers Institute, *Textbooks are Indispensable!* New York: American Book-Stratford Press, Inc., n.d., pp. 18-19.

bromide to curiosity; as an indispensable aid and an insuperable obstacle to curriculum planning. Actually, it resembles none of these. But this black and white thinking has tended to obscure the numerous real issues involved and has even served to becloud the inconsistencies present in the positions of the antagonists.

On the one hand, the publisher and his authors defend the textbook, while being constantly alert for necessities to modify or replace it. Implicitly, this group recognizes the existence of flaws in the product and the developing threats to its continued dominance. The publisher also has a set of values and ideals concerning the educative process. Without doubt he is, intellectually, much closer to his market than are most other industrialists to consumers of their products. Finally, the publisher may be expected to act in terms of enlightened self-interest. The role of printed materials in school learning has been altered greatly since the time of the McGuffey brothers. Their books did not compete with sound-films, radio, television, and attractive trade books. The *Eclectic Readers* were not used during a period of profound change in pedagogical theory.

On the other hand, protagonist educators have denounced the textbook in terms of pioneer educational concepts and philosophies. Professional pressures force educational leaders to live on the cutting edge of the culture. From this vantage point the textbook has appeared far distant and obsolescent. Considered in relation to changing culture patterns and new knowledge of what the best-conceived schools can do, these educators' views appear quite logical. But even horizon-pushing professional educators admit, quietly, that most schools and most teachers in practical situations would have to close up shop were they suddenly to be deprived of the textbook. The admission has to be made that the textbook, as it is, has a logic in most circumstances.

A Realistic Look

It seems quite possible that the textbook stalemate will be broken by a new perception of the needs of schools and teachers in making practical progress toward improved education. Progress

will be impeded, if not impossible, without improved printed materials. In all probability the publishers' standard textbooks cannot fill the educational needs of all schools. Yet there are many schools which need the standard product for continued operation.

Three types of teaching and consequent uses of the textbook have been presented. The textbook, as it is, became less useful as teaching practice required the use of multiple texts and then reference materials. The textbook might better be considered not so much as good or bad but rather as more or less applicable to the various educational patterns within which teachers are working. Appropriate printed materials would have to be experimentally evolved to fit the multitext and the reference-book situations. But if thoughtful educators, working closely with publishers, cannot find means to produce nonprofit, experimental editions of printed materials, then something less than devotion to public education is provoking continuation of the controversy. But there are now some evidences of eagerness on the part of both educators and publishers to approach the problem experimentally.

This approach could have the wholesome effect of modifying former unrealistic criticisms of textbook use in schools that operate in terms of the single textbook. It would provide experimental settings for production of different kinds of text materials to be used where they might promote higher levels of teaching and learning. Innovations introduced and validated in experimental situations might influence and improve textbooks and teaching for the great majority of schools which now can operate only through recourse to the textbook which determines both the content and the method.

The goal is a worthy one. It would not be possible to discover more about textbook use without discovering more about teaching, or to improve text materials without improving education.

Putting a Closer Focus on the Teacher

In the last analysis the individual teacher, if he is thoughtful and professionally sincere, may feel that he is caught in the turbulence of a powerful theoretical controversy. On the one hand, he may be sensitive to real or imagined limitations on his own freedom to make decisions on textbook use in his own classroom. Surely,

school systems do have many regulations and beliefs regarding textbook selection and use. On the other hand, he may feel that his teaching is unworthy if he does only what he is "supposed to do" and fails to heed newer practices that may contradict accepted customs in the school where he teaches. Or he may feel confused and uncertain through learning that textbooks and their uses constitute the vortex of a "burning issue in American education today." If he is timid, he may prefer to "leave well enough alone" and conform to the customary and easier local assumptions on how textbooks should be used. But if he is of a more questioning and independent turn of mind, he may insist on regarding any pattern of textbook use as a legitimate problem for careful thought and study by teachers. Of course, the three theoretical positions on textbook use, and the three kinds of practical use found in New York schools were each critically appraised. This was done because the issue is still open and previously held points of view are in process of changing.

Teachers are probably enjoying a progressively greater amount of freedom in developing their own teaching procedures. The assign-study-recite formula is all but obsolete in American schools and in its place has come a wide variety of teaching methods. That old bugbear of teachers—the anonymous "they" who prescribe and require rigid and senseless forms of pedagogy—seems to be disappearing. In the place of the bugbear are coming the administrator and supervisor who encourage responsible thought, study, and experimentation. Further, teachers are beginning to do their own research on practical problems, as well as use the results of more formal research studies. In other words, the teacher who can behave as a professional person (develop and test his own practice) is in process of achieving a preferred role in the educational scene. Solution of the textbook controversy may well depend on the inventiveness and experimental efforts of teachers.

Contemporary emphases in teaching the various subject areas are also having an effect on the ways teachers use textbooks. Of course, it is not possible for one chapter to point out the detailed ways that new insights into the teaching of the various areas are affecting teaching and textbooks. Reference to the relevant chapters of this book will suggest pointed questions on the adequacy of different uses of the textbook in different subject areas. In general, it may be

sufficient to observe that the various subjects are gradually undergoing new patterns of organization, and the new patterns are having an influence on textbook use.

Repackaging of Content in Subject Areas

The selection of content and the way it is "packaged" for learning situations has a decided influence on whether it can be arranged effectively in textbook form, and if so, how it can be arranged. By way of illustration four subject areas which are in process of being "repackaged" will be briefly characterized.

Foreign languages are being introduced through oral and conversational approaches rather than the former rigorous exercises in grammatical structure and vocabulary. The more or less stilted rhetorical use of foreign languages has largely been replaced by helping beginning learners use a vernacular form of the language being studied. This shift in arranging the learning elements of any modern language seems to be somewhat characteristic of the teaching of languages from elementary school through the university. Phonograph records and informal conversation are used initially. Studies in the grammar of languages are reserved for more advanced work which is introduced after familiarity has been gained. Of course, the older textbook forms for the teaching of foreign languages are completely out of place in the new "packaging." In this way textbook organization is being recast. Perhaps the text cannot be adapted to conversational language in the vernacular. Perhaps its best contribution can be made at later, more specialized times. These are questions that teachers can help answer.

The social studies are undergoing change as a result of significant developments in the behavioral sciences. The logic and method of history are being examined together with study of the findings of historians. The social relations of people are being studied while political and civic agencies are being studied. The science of the cartographer's projections has entered the lesson in geography. World regions are being regarded as great laboratories in the actions and mores of nations of people. The social dynamics of groups of people are being studied and discussed in the society of the classroom and the community. Social studies as stories and accounts for children

to read and recall cannot well compete with the active, thoughtful study of human relations and the probing of reasons why the physical world is portrayed in Mercator projections, polar projections, and the like. The shift in social studies from the "twice-told-tale" to the active study of living people—their customs, beliefs, attitudes, and inventions—is a rearrangement of content that will have great influence on school materials.

Elementary school arithmetic has already undergone a dramatic rebirth. The so-called "meaning theory" has influenced some arithmetic textbook series and has introduced learning experiences in arithmetic that cannot easily be included in textbooks. Probably the spirit of the "new" arithmetic can be captured by observing the lessening tendency to dub arithmetic a "tool" subject. Arithmetic is a tool only in the sense that one's native language is a tool. Arithmetic can be learned as the language of mathematics, which systematically opens the world of quantity. When our number system is presented as structured on ones, tens, hundreds, thousands, and so forth, children can and do develop for themselves all sorts of methodologies for solving number problems. These beginning methodologies can be refined and perfected as children gain fluency in the language. No longer is arithmetic the long and defeating mystery of memorizing tables and tricks for no observable reason. Much of the approach to the teaching of arithmetic has become "conversational" and insists on exceeding the confines of the printed page. Perhaps the textbook, alone, cannot fully introduce this language. Perhaps new uses of the arithmetic textbook will be discovered by teachers.

Science, undergoing almost a "forced growth" in the world of atomic energy and man-made earth satellites, is taking on new dimensions in school programs. The methods of science are finding their way into the content of the subject area, as well as the findings of the sciences. When this is done the previous textbook demonstrations of scientific principles—sometimes misnamed "experiments"—are no longer satisfactory for students or teachers. Students who become sophisticated in the methods of science soon learn that the results of a true experiment cannot be described in advance. Much of the content for an experimental attitude in science teaching comes from the empirical world around the students and can be anticipated

only with difficulty. If the content of science is to be experienced, and not only "read about," what specific uses should the textbook have?

Other subject areas are giving evidence of similar development. As this occurs, teachers are presented with much opportunity to reformulate their own organizations of areas of knowledge.

The Teacher Can Plan His Own Use of Textbooks

In a fascinating and rapidly developing world of knowledge and ideas, it would be the rare teacher, indeed, who could not respond to the fascination of acquiring his own new knowledge and the challenge of helping children learn the joy of discovery. This may be suggested as one of the real lures of teaching. The vital teacher of elementary-school children faces a unique opportunity to increase his own knowledge on a wide front as he guides children into discovering their own wide world of ideas and things.

A substantial part of the teacher's concern in American schools is that of judging the best role of the textbook in the expanding world of knowledge and children's learning. Within this context, the assertion that the intellectually curious teacher is in the very best position to make such judgments may not seem overdrawn. Armed with a knowledge of what textbooks (as a particular kind of instructional material) might be able to do, furnished with a dynamic interest in what children should be able to learn, and possessed of an attitude that calls for experimentation and test, the elementary school teacher can use textbooks to help provide a rich education for children.

DISCUSSION QUESTIONS AND ACTIVITIES

1. Make a five-column chart like the one that follows:

Opposite each elementary-school grade level and each college subject you have completed place a check mark in the column that most nearly characterizes the chief way you used textbooks. Then in the last column indicate your degree of satisfaction with the extent of

your own learning in the grades and in your college subjects. Use a five-point scale to show your ratings: 5 = very satisfied, 4 = somewhat satisfied, 3 = so-so, 2 = somewhat dissatisfied, 1 = very dissatisfied.

Grade level	Single textbook for subject	Multiple textbooks for subject	Textbooks used as references only	Rating of your experience
Elementary Grade				
1				
2				
3				
4				
5				
6				
College Subj.				
English				
History				
Chemistry				
etc.				

When you have completed the chart examine it to see if you can reply to questions like the ones that follow:

- Can you trace any relationships between your ratings and the ways you used textbooks?
- Are variations in textbook use greater or less in your elementary-school experience than in your college experience? Can you account for the differences?
- What important influences, other than textbooks, may have influenced your ratings?
- Write a description of the ways you prefer to use textbooks in your college classes. Give reasons for your preferences. Would you recommend your ways for all students? Why?

- c. Should the textbook serve different purposes in college teaching than in elementary-school teaching? What different purposes? Defend your replies to this question.

Additional questions will occur to you as you think about the five listed above. Carefully phrase the additional questions and discuss your reactions.

2. Can you identify subjects or learning areas which you believe might be adequately taught without any use of textbooks, as we know them? What reasoning led you to your conclusions?
3. Can you identify subjects or learning areas which could not be acceptably taught unless textbooks were used? How do you account for the differences (if any) in your responses to Questions 2 and 3?
4. It has been observed many times that post-school adults seldom keep their textbooks to add to their private libraries, or to consult after school days are over. Can you suggest a reason for this?
5. How might a teacher experiment with his own ways of using textbooks? What objectives of teaching do you think the experimenting teacher should test? Can you suggest ways for a teacher to perform such experiments? Can you experiment, as a student, with your own use of textbooks? With other books? Suggest several informal experiments you might perform.

Teaching Reading

IT IS NOT UNUSUAL for so-called "popular writers" to give uninformed readers the impression that the United States is the only country in the world today that faces problems in teaching young people how to read. This, to put it bluntly, simply is not so! Over a decade ago, in discussing reading problems, Dr. Frank C. Laubach estimated that three-fifths of the members of the human race were still so ignorant that they could neither read nor write. His book, *Teaching the World to Read*, reveals that in Asia, where 80 to 90 percent of the people are illiterate, modern industry must be carried on by the other 10 to 20 percent of the population; in Africa, 95 percent of the colored people are illiterate; in Latin America, the Indians are 90 percent illiterate.¹ Commenting in 1957 on the problems of illiteracy, Dr. Laubach said that the great challenge still lies ahead—despite his years of bringing reading and writing to the peoples of 92 different countries in more than 200 tongues.²

William S. Gray, after completing a world-wide survey for UNESCO, pointed to the enormity of the task facing educators by revealing that one UNESCO report shows that "of every ten

¹ Frank C. Laubach, *Teaching the World to Read* (New York: Friendship Press, 1947), p. 1.

² Frank C. Laubach, "Each One Teach One," *Atlantic Monthly*, 207: 31-34 (October 1957).

children in the world, five go to school. Of those in school, four are in the primary school, and one is receiving post-primary education."³ Thus, four-fifths of those attending school are barely carried to the level of functional literacy. Guy L. Bond of the University of Minnesota has reported that he was struck with the similarities rather than the differences between reading problems and methods here and abroad. John J. DeBoer of the University of Illinois, and David H. Russell of the University of California have commented at length on reading problems faced in England and Scotland.⁴ Experts such as Laubach, Gray, Bond, DeBoer, and Russell possess the perspective which leads them to believe that the hope for a literate world tomorrow lies in the attainment of a relatively high level of literacy on the part of the present generation of boys and girls. But the progress that is being made in the United States is unique. It has not been approached in any country in the world.

According to Dr. Luther Evans, director general of UNESCO, approximately half the world's people cannot read and understand a newspaper. Commenting on a UNESCO publication, *World Illiteracy at Mid-Century*,⁵ he made the statement that we are making too little progress against illiteracy. This survey puts the total of adult illiterates at 700,000,000, or about 44 percent of the world population fifteen years old and over. The data indicate that by far the largest concentration of the unlettered is found in Asia and Africa, but that the problem of illiteracy is by no means confined to those regions.

As one of its major conclusions the volume discusses the possibility that the total of adult illiterates may increase rather than decrease if the present rate of population growth is maintained. The only way to bring lasting improvement, the study says, is to provide more schools for children and to keep them in classes until they become literate. It is then necessary, according to the report, to

³ William S. Gray, "Current Reading Problems: A World View," *Elementary School Journal*, 56:12 (September 1955).

⁴ Guy L. Bond, "How They Teach Reading 'Round the World," *The Minnesotian*, 9:6 (November 1955); John J. DeBoer, "Editorial Comments," *Elementary English*, 34:2-2 (April 1957); David H. Russell, "Primary Reading Programs in England and Scotland," *Elementary School Journal*, 57:446-51 (May 1957).

⁵ *World Illiteracy at Mid-Century*. New York: UNESCO, 1957.

ensure their continued literacy by providing reading material within their financial and mental grasp, for experience shows that reading and writing skills are lost if they are not exercised.

Mort and Vincent, in discussing increases in school enrollment in this country, observe that "equality of educational opportunity during the past few decades has moved closer and closer to an absolute reality. In 1870, only 57 percent of the children five to seventeen years of age were enrolled in public schools. Now, 80 percent of this age group are enrolled. Of the slightly more than 30 millions of school age children in the United States, 29 millions are enrolled in schools—public, private or parochial. The percentage of school age children (seven to thirteen) who are in elementary school is nearly 99 percent."⁶

Thus, a leading national periodical declares that the democratic ideal of mass education is close to attainment, and "for the first time educators must ask themselves: Should everyone be educated? If so, how far? If so, can we do it, with the resources at hand?"⁷ A recent survey conducted by another national periodical concluded that "the goal is to educate everybody."⁸ These and similar studies indicate that whereas in the United States approximately 22 percent of the school population goes on to college, there is not a single country on the European continent where more than 15 percent of those eligible actually attend institutions of higher learning. The *United States News and World Report* survey indicates that for Europe as a whole, the average of young people who get a college education is only 5 percent.

In Britain, only 15% of the primary pupils go to high school, and only 3% manage to get into a university. Of French youths of high school age, only 46% are actually in school, and the figure for youths of college age is 10%. In Germany, 2% of the youth go to the university. Italy falls even below the European average, for, while 5% of the young people of university age enter universities, only 7% of the youngsters beyond 14 years of age are enrolled in any kind of school.

⁶ By permission from *Introduction to American Education* by Paul R. Mort and William S. Vincent. Copyright 1954. McGraw-Hill Book Company, Inc.

⁷ "The Dilemma of Mass Education," *Newsweek*, 46:55 (December 5, 1955).

⁸ "Are European Children Smarter Than American?" *United States News and World Report*, 39:5 (October 21, 1955).

⁹ *Ibid.*, p. 50.

Revealing studies such as these draw attention to the magnitude of the problems facing educators. If there is widespread agreement that in the United States the goal is to educate everybody—and there appears to be such agreement—then it is essential that the fundamental requirements of a sound reading program are recognized and understood by all citizens, parents, and taxpayers.

Such a reading program needs to have a firm foundation in theory, and any method of teaching reading lacking a groundwork in philosophy, psychology, and pedagogy suffers to the degree that emphases are misplaced, overloaded, poorly timed, or misconceived. Some programs, well-intended perhaps but poorly grounded in theory, have had varying degrees of success in practice. Others have oversimplified the problems faced and have advanced panaceas with little thought for the foundations which must underlie a sound approach to reading instruction.

What are required, and what teachers are striving to attain in their reading programs, are systems that provide for many needs, for today's readers have many needs. These needs are met when the child is successful in getting meaning from his reading—when the process of reading and the meanings gained from the reading act are accepted as valued means for reaching desired goals. Programs that stress one approach oversimplify the situation. This is why a phonetic approach is defective. Teachers and administrators cannot accept, nor can well-informed parents accept, reading programs which are not based on child needs. *The trouble is that not all parents are well informed.* Take, for example, the response "no opinion," which is all too frequently encountered by pollsters interested in sampling public opinion. Time and time again Phi Delta Kappa's Commission on Free Public Education turned up this "no opinion" response in its survey. And the questions posed were of vital importance to parents of children of elementary-school age.

One question serves to illustrate this point. In answering the question, "Do you think the people who have vigorously criticized the public schools on a national level are sufficiently well-informed to evaluate the quality of teaching and the school program," 27 percent answered "yes," 30 percent answered "no," and 43 percent had "no opinion." When asked about local people who were critical of

school programs, only 19 percent of those queried thought that the local critics were well informed, while 38 percent thought they were not and 43 percent had no opinion in the matter.¹⁰

This was true of many other questions, and some of the people who made the survey for Phi Delta Kappa think that the presence of so many "no opinion" responses means that communication between schools and the public has broken down. One impression gained is that even though results show good support from lay people for their schools, there is much evidence that far too many people simply do not know what the schools are doing or why. In fact, many parents of today's elementary-school children do not know how reading is taught. Many assume that reading instruction today proceeds along lines similar to those followed "in the good old days."

Research seems to indicate that the school must assist parents in clearing away certain obstacles which hamper the development of clear understandings. Some of these obstacles, as applied to reading instruction, are stated by Morrison:

1. Probably the first hurdle that parents have to meet in understanding our present program is that of accepting the idea that all children are not ready to start reading at the same chronological age.
2. A second hurdle which parents must take if they are to understand and accept the modern reading program, comes at the beginning reading stage. For example, parents wonder about the "whole" method used today.
3. A third hurdle has to do with word recognition techniques. For many parents, phonics seems to be the only known method of identifying unknown words.
4. A fourth difficulty or hurdle for parents to take is concerned with oral reading. To many of today's parents, a reading class means a daily opportunity for the child to read orally. They identify the ability to read orally with general reading ability.
5. The fifth hurdle has to do with ways of improving the reading of individual children.¹¹

¹⁰ Walter B. Lovelace, "Surveying the Survey," *Phi Delta Kappan*, 37:61 (November 1955).

¹¹ Nellie C. Morrison, "Parent Readiness for Today's Reading Methods," *The Reading Teacher*, 6:34-35; 44 (September 1952).

Only as these and similar obstacles are surmounted can parents be expected to cooperate effectively and efficiently in assisting the school in its efforts to teach reading. At one time the schools rather generally chose to ignore and in some instances even to deny the fact that parents have a role to play in reading. The issue is no longer whether the parents should have a role, but rather what the nature of this role is.

Today's schools have assumed responsibility for educating virtually every child of elementary-school age in America. As school enrollments soar—and all the evidence indicates that they will continue to soar indefinitely—the tasks faced loom formidably. Thoughtful administrators and teachers are earnestly seeking the assistance of parents in developing effective programs for the young. How best can parents serve?

The Role of Parents in a Reading Program

The experienced teacher has many ways of utilizing parent help. The inexperienced young teacher, encountering many problems in his first job, is often at a loss when it comes to soliciting assistance. Administrators very often anticipate this feeling of helplessness and arrange through "planning days" or "workshops" to assist the young teacher in getting off to a good start. Many administrators arranged demonstrations prior to the start of school which are directed by experienced teachers and consultants. Out of such sessions are developed "guidebooks" or "manuals" which greatly assist the beginning teacher. From these suggestions the beginning teacher is able to explain the program of the school and, in particular, the ways in which the parent can assist the teacher in reading instruction.

From the school library or the professional library of his principal, supervisor, or colleagues, the beginning teacher can secure well-written accounts of how reading is taught. These he can place in the hands of interested parents, or display to catch the eye of the visiting parent during room mothers' meetings or visiting days. Specifically designed for parents are Artley's book, *Your Child Learns*

to Read,¹² and *Child Growth in Reading*¹³ by Bond and Wagner. These accounts are directed to parents of children who will be using certain basal reading sets early in their school careers. Since these books are written directly for parents and geared to specific programs centered about book series, many of the questions which usually arise are anticipated and answered by the writers.

More generalized in their treatment and not focused on a given reading series, are Frank's, *Your Child's Reading Today*,¹⁴ Frank and Frank's, *How To Help Your Child in School*,¹⁵ Tooze's *Your Children Want to Read*,¹⁶ and Fenner's *The Proof of the Pudding: What Children Read*.¹⁷ All these books are designed for parents and have very specific suggestions for parents who want to help their children and at the same time forward the reading program of the school.

The inexperienced—and the experienced—teacher can glean much helpful information which can be transmitted to parents from the many bulletins distributed by national, state, and local groups. For example, there are three small, very inexpensive brochures prepared jointly by the Department of Elementary School Principals and the National School Public Relations Association, both departments of the National Education Association. Since these brochures are available in quantity lots at a nominal charge, teachers and parent groups often consider the small investment in several copies to be well worthwhile. The first of these was designed to acquaint parents generally with kindergarten and first-grade programs, and several sections are devoted to specific suggestions designed to assist the parent and teacher in effecting a happy transition from home to school for the entering kindergartener or first grader. Entitled *Happy Journey: Preparing Your Child for School A Handbook for Parents*

¹² A. Sterl Arley, *Your Child Learns to Read* Chicago: Scott, Foresman and Company, 1953.

¹³ Guy L. Bond and Eva Bond Wagner, *Child Growth in Reading* Chicago: Lyons and Carnahan Company, 1955.

¹⁴ Josette Frank, *Your Child's Reading Today* Garden City, New York: Doubleday and Company, 1954.

¹⁵ Mary Frank and Lawrence K. Frank, *How to Help Your Child in School* New York: Viking Press, 1950.

¹⁶ Ruth Tooze, *Your Children Want to Read* New York: Prentice-Hall, Inc., 1957.

¹⁷ Phyllis Fenner, *The Proof of the Pudding: What Children Read* New York: John Day Company, 1957.

Whose Child Will Soon Enter Kindergarten or First Grade,¹⁸ this brochure appeared in 1953, and was followed in 1954 by *Janie Learns to Read: A Handbook for Parents Whose Child Will Soon Learn to Read*,¹⁹ and in 1956 by *Sailing into Reading: How Your Child Learns to Read in the Elementary School*.²⁰ The titles of the latter two brochures are suggestive of their content, and teachers often report a heightened interest on the part of parent groups once they have had an opportunity to peruse and then discuss the reading programs, which are explained in general, easy-to-understand terminology.

Still another type of resource material is available to the beginning teacher. For many years various national, state, and local groups have made their bulletins available, very inexpensively, to parent groups. Teachers have found these invaluable in helping parents perceive their roles in the reading program. A few copies of these bulletins on display at room-mothers' meetings and at PTA gatherings usually attract attention, and teachers often use these occasions for suggesting that parents acquaint themselves with the views propounded. Within the past decade numerous similar bulletins have made the role of the parent quite clear and distinct. For example, in 1949 the National Council of Teachers of English devoted a portion of their bulletin, *Children Learn to Read*,²¹ to a consideration of the parents' role. In the same year a bulletin of the State Education Department of New York, *When Shall We Begin to Teach Reading*,²² was concerned in part with the role of parents. In 1950 the Reading Clinic of the University of Delaware issued a volume entitled *What Parents Can Do to Help Their Children in Reading*.²³

Boards of education frequently compile brochures which are

¹⁸ *Happy Journey*. Washington, D. C.: National Education Association, 1953.

¹⁹ *Janie Learns to Read*. Washington, D. C.: National Education Association, 1954.

²⁰ *Sailing into Reading*. Washington, D. C.: National Education Association, 1956.

²¹ C. DeWitt Boney and Ethel G. Doyle, "The Parents' Role in the Reading Program," in *Children Learn to Read* (Champaign, Illinois: National Council of Teachers of English, 1949), pp. 58-64.

²² Helen Garrett, "The Parents' Part in a Successful First Grade Reading Program," in *When Shall We Begin to Teach Reading?* (Bulletin 1367, Albany, New York: State Education Department, 1949), pp. 47-51.

²³ Russell G. Stauffer (Editor), *What Parents Can Do to Help Their Children in Reading* (Newark, Delaware: University of Delaware Press, 1950).

distributed free to all school patrons and others. For example, in 1952 the Board of Education of the City of New York distributed a brochure entitled *How and What Your Child Learns at School*.²⁴ Chicago's public schools in 1953 issued *The Preschool Curriculum*,²⁵ which was designed to explain in specific outline form what was involved in assisting to make the home-to-school transition a happy and fruitful period for the young child.

Publishers of basal reader series have from time to time made helpful suggestions to teachers with respect to ways in which the aid of parents may be enlisted. An example of this is *Ways You Can Help Your Child with Reading*.²⁶ Such printed material is usually available to the teacher free of charge, and quantity lots can be secured for use by parent groups. Although such compilations often tend to accent the book series published by the organization concerned, they can, nevertheless, serve a useful purpose.

Nationally circulated yearbooks and educational periodicals devoted to problems of reading instruction have devoted considerable attention to increasing the active participation of parents in the program of the schools. Examples of articles on the subject are: "The Parents: Their Stake in the Program,"²⁷ and "Who Are the Parents?"²⁸

The appearance of these books, brochures, and articles has stimulated local schools to examine their own thinking with respect to the role of parents. School systems everywhere have been developing statements on their programs as a whole, and many have emphasized reading instruction in particular. Not all of these treatments have been elaborate—nor need they be. The more polished "professional" jobs have largely been produced by school systems whose resources have been ample, but many sincere, authentic, and timely statements have been introduced into print through the mimeograph.

²⁴ *How and What Your Child Learns at School*. New York: Board of Education, 1952.

²⁵ *The Preschool Curriculum of the Chicago Public Schools*. Curriculum Brochure No. 5. Chicago: Chicago Public Schools, 1953.

²⁶ Sally L. Casey, *Ways You Can Help Your Child with Reading*. Evanston, Illinois: Row Peterson Company, 1955.

²⁷ Paul W. Bixby, "The Parents—Their Stake in the Program," *The Public and the Elementary School*, Chap. 4, pp. 91-115. 24th Yearbook, National Elementary Principal 50, September 1946.

²⁸ Willard Abraham, "Who Are the Parents?" *Educational Leadership*, 10:220-223 (January 1953).

The study, thought, and effort that have gone into the production of statements has been rewarded when parents *read, question, and act* upon the suggestions made. The mere preparation and eventual distribution of the document explaining the reading program has, of necessity, to await the crucial test—will parents read it?

That parents are interested, or can become interested, is shown by the findings of many research studies which have sought to analyze the questions parents raise and the implications of these questions. The questions usually betray a surprising naiveté on the part of parents—and quite as frequently betray the fact that the school has been inexperienced or inept, or both, in explaining its program to its public. "Would it be all right for me to teach my child the ABC's?" "Will it hurt my child's reading if I read aloud to him?" "Why can't I hear my child's lesson—my mother used to hear mine?" "I was taught to read by phonics. My child isn't. Why?" Artley²⁹ lists no less than fourteen areas or categories into which parents' questions fall. Peterson³⁰ categorizes twenty-four areas of parent interest with respect to reading programs in the elementary school. Artley makes the sound point that "an analysis of these questions and the reactions that parents have to the reading program might reveal certain significant generalizations. In the first place, it appears that parents are asking a lot of questions they shouldn't have to ask. They are asking questions that should have been answered by school people as a part of a good program of school interpretation."³¹

Artley goes on to say that perhaps the questions that parents never ask are the ones that schools should devote particular attention to answering. "What does one do if he is truly to interpret?" "What part does imagery—seeing, feeling, hearing—play in reading?" "Why should a mature reader react to what he reads?" "How can reading be made an act that truly modifies thinking and behaving?"³²

As one examines the positions that have been taken with respect to how parents may assist in the reading program, one can sense the justifiable concern of the school when the parent himself under-

²⁹ A. Sterl Artley, "What Do Parents' Questions Mean?" *The Reading Teacher*, 10:17 (October 1956).

³⁰ Lily Peterson, "The Questions Parents Ask About Children's Reading," *The Reading Teacher*, 7:215-216 (April 1954).

³¹ Artley, *op. cit.*, p. 17.

³² Artley, *op. cit.*, p. 19.

takes the task of teaching reading. Parents do not take this burden lightly; they usually have some reason—for them, a good and sufficient reason. They may be inexpert, but they are interested enough or desperate enough to want to do something about it. Or they may be egged on by unsupported and unfounded criticisms and exhortations of so-called experts, who, having gained a reputation for themselves in other fields of endeavor, believe sufficiently in their expertness to pass their “advice” on to parents. Teachers and school people everywhere shiver at such advice as this:

You want your child to be taught reading; instead, the schools teach word guessing. So, why not do the job yourself? You paint your living room, you lay tiles in your kitchen, you do dozens of things that used to be left to professional experts. Why not take on instruction in reading? Surely you can do a simple job like that. Millions of English and American parents have done it before you; all it amounts to is teaching your child the meanings of twenty-six letters and some fifty letter combinations, in small letters and capitals. If you start in the fall of the year when your child is five, you have a whole year to do the job before the school can do any damage to your child’s mental habits. What’s stopping you? Do it yourself—and the problem will be solved once and for all.

You say that your child isn’t ready at the age of five? Don’t be ridiculous. Are you trying to tell me that your child is inferior to every single child born and brought up in Great Britain?

You say you haven’t got the time? I don’t believe it. Of course you have the time. You have the time to play with your child, haven’t you? Play a little reading with him. Reading at the age of five is nothing but a game.³³

It is at this juncture that the teacher has a clear-cut obligation to inform the interested parent of certain important “do’s” and “don’ts.” The teacher can do this because he has at his command many of the books, brochures, pamphlets, and printed suggestions that have been compiled by experts in the field of reading, by national committees concerned with reading problems, and by state and local groups. All these are designed to assist him when he endeavors—tactfully, but directly—to aid the parent in perceiving the role of the school and of the home in forwarding the reading success of elementary-school children.

³³ Rudolf Flesch, *Why Johnny Can’t Read And What You Can Do About It*. New York: Harper & Brothers, 1955, p. 111.

The teacher is obligated to establish beyond doubt that there are many parts of reading instruction that can be carried on by the interested parent—that is, if reading instruction is conceived broadly. The teacher can urge that the parent be a good listener; read often to the child; explain words that he encounters but which he does not know; help him to help himself by suggesting that he look carefully at pictures and other clues that may be present on the page. The teacher can and must stress the necessity of parents' refraining from spelling out a word or having the child spell out orally a word that he does not know. It must be stressed that unless the parent has had considerable training in teaching young children, little good and possibly much harm will come from attempts to teach the child how to sound out words. Care, both in the home and in the classroom, must be exercised that the child does not merely "cover" the word—he must *know* the meaning of the word.

What the teacher knows from his experience, and what the parent may not know, is that in the beginning days in school the child exercises his memory to a remarkable degree. His early attempts at "reading" are merely exercises in sheer recall—recall of stories *covered but not read*, for reading from the very outset must be concerned with meaning, and meaning does not accompany covering at this stage. As the child matures and gains in experience under the teacher's careful guidance, he will *read*, and not merely *cover*. The teacher can tactfully draw the parents' attention to the well-established fact that children very frequently and very early in their reading careers develop an astonishing facility for eloquent coverage of the printed page without knowing the meaning of its contents—and indeed, without knowing the precise location of specific words on the page! This fact comes to many parents with shocking suddenness, and on many occasions there is a tendency to *blame* the child for his performance.

The teacher can and must reassure parents with respect to the child's early attempts at reading. Praise for his accomplishments is very much in order in the early days, but the parents must be made to understand that its continuance is important. The teacher is striving at this early stage to breed confidence in the child so that he will *want* to read. In this respect the assistance of the parent is vital—the child must know that all concerned—his teacher, his mother, his

father, his sisters and brothers, and all his classmates—are interested in his reading—they want him to learn to read and *he* will in turn want to read. Extrinsic rewards such as praise provide a certain amount of motivation in the beginning days, but these must inevitably give way to the intrinsic motivation that will give the child the desire to read for its own sake.

Emphasis must be given to the fact that very frequently, and quite naturally, parents and teachers view the child differently. Many aspects of the child's behavior and of his personality that are of intense concern to parents may not appear to be matters of much concern to the school. In her book *Parents and Teachers View the Child*, Charlotte del Solar observes: "The claim that a school ministers to all aspects of the welfare and training of the 'whole' child needs qualification. Instead of asserting this claim as an article of faith it would perhaps be better if school people would define more carefully, in practical terms, the overlapping as well as the distinctive and unique roles of the home and school."³⁴

As the teacher reflects upon the role of the parent and makes helpful suggestions to his parent group on ways that they may assist in facilitating the development of reading in their children, it would be well for him to give pause and devote some thought to *his* own expectations. A study by Dady of a large number of first-grade teachers revealed that in far too many instances they expected a totally unrealistic development of skills in children first entering school. The wide gap between expectations and performances led Dady to the following conclusion:

It seems to be the consensus of opinion that no two youngsters are alike in growth and development. The need is often stressed that we provide for individual differences in children. It is not surprising, therefore, to find rather large differences among the boys and girls with respect to the number of skills in which they could engage successfully. The significant aspect regarding these areas, is that teachers, who should be conversant with the fact that individual differences do exist, were prone to expect mastery on nearly half of the skills studied before the child could perform satisfactorily. Perhaps teachers expect too much of first graders, perhaps parents expect too much of teachers, no immediate answer is available, but we [parents and teachers] must make every

³⁴ Charlotte del Solar, *Parents and Teachers View the Child*. New York: Bureau of Publications, Teachers College, Columbia University, 1949, p. 100.

effort to bridge the gap between the home and the school, in order that the children entering our schools for the first time will be better able to cope with the problems which they are sure to encounter.³⁵

That the child can be caught in this cross-fire of parent and teacher aspirations and expectations is to be expected. By questioning children, Edwards found that teachers had unintentionally fostered misconceptions among their pupils by praising fast, fluent coverage, and that parents had contributed to the formation of the misconceptions by praising a type of reading that is unnatural for beginners. Edwards believed that social and cultural influences, the desire for approval, and the unique way in which a child interprets the methods of satisfying these requirements for approval were superimposed on the teaching-learning situation. He was of the opinion that care must be taken when teaching primary reading to avoid a child's misinterpreting the intentions of the teacher—and the teacher himself must understand that the best beginning reading is not adultlike. A child who understands the true "point" of reading, the gaining of ideas, and who sees recognition being given for this rather than for speed, word memory, and the like, will probably not form misconceptions of the reading process. He will be more likely to use the skills (sounding, sight words, and reading for meaning) and thus will practice and remember them.³⁶

As parents and teachers learn to perceive their roles in their proper perspectives, as they gain in experience in working with one another, the gulf that separated these true partners in the educational enterprise in days gone by will be bridged. Parents will further the program of the school through their patience, encouragement, and appreciation of the slow progress that children sometimes make. By close cooperation with the home, teachers will bring into sharp focus their own responsibilities and their shared responsibilities, and will guide parents along paths which will lead to the growth and development within the child of self-confidence and the desire to read for reading's sake.

³⁵ Chester A. Dady, "Some Basic Skills Expected of Incoming First Graders," *Curriculum Bulletin No. 131*, Eugene, Oregon: College of Education, University of Oregon, 1953, p. 5.

³⁶ D. Lewis Edwards, "Reading from the Child's Point of View," *Elementary English*, 35:239-241 (April 1958).

Essential Elements of a Sound Reading Program in the Elementary School

If the school is to make its proper contribution to the growth and development of reading ability in its pupils, it is essential that the staff view as its primary responsibility the organizing and administering of a *continuous program* for all the time that the child is in the school. Although no program can be offered that will completely satisfy the needs of all schools in all sections of the country, suggestions can be made which offer high promise for the attainment of many of the sought-for goals. The developmental approach to reading appears to possess the prerequisites needed for best meeting the needs of today's elementary school children.

What Is Meant by Developmental Reading?

There are few terms used in the field of reading that evoke so much argument and discussion as the words "developmental reading." First applied when reading authorities were advocating an all-school attack on reading problems and the development of all-school emphases on programs designed to better prepare pupils for mature forms of reading behavior, the so called "developmental" approach came to mean many things to many people. Kirk¹ recognizes the phases of mass action, differentiation, and integration as making up the reading process. In the first stage, that of mass action, the child seems to get an impression of the total structure of the word or groups of words, whereas in the second stage, that of differentiation, he begins to notice the details of words. Kirk believes that it is at this stage that the child is ready for some form of word attack, the most systematic of which is phonics. It is in the third stage, that of integration, that the child must go beyond the detailed analysis of words. Kirk's reasons are as follows:

¹Samuel A. Kirk and Winifred D. Kirk, "How Johnny Learns to Read," *The Exceptional Child*, 22: 159 (January 1956).

He has learned to short-circuit many of the perceptions and associations which he had laboriously gone through earlier. The use of phonics in the second stage enabled Johnny to see the word *map*, to associate the *m* with its sound, the *a* with its sound, the *p* with its sound, then to blend the sounds into the auditory word *map*, and finally to associate that sound with the meaning of the word. In the third and final stage, these steps follow automatically in a split second, or the in-between steps drop out and the total appearance of the word again determines the meaning just as it did in the first stage. At this point Johnny can understand the thought from a printed page without being aware of each word or the parts of each word. But until then he is not an efficient reader.²⁸

Perhaps the most comprehensive, and certainly the best, definition of what a developmental program in reading endeavors to achieve appears in a New York State Education Department Bulletin, *The Road to Better Reading*.

A developmental reading program is one that is continuous and adjustable to the needs of the individual. It provides opportunity for the learner to begin reading when he has developed readiness for reading and makes provision for him to learn and progress at his own success rate, thus avoiding the two imminent pitfalls in some reading programs that introduce a child to failure before he has an opportunity to meet success.

The developmental reading program is one formed through a unity of instruction in five areas of reading. These areas are (1) basic reading, (2) reading study skills, (3) children's literature, (4) oral reading, and (5) free-choice or recreational reading. Basic reading skills are inherent in each of the preceding areas. A brief outline of each area follows:

The program in the area of basic reading skills aids the pupil in developing a basic sight vocabulary; to develop techniques for word recognition; to understand what is read; to read with a reasonable degree of speed; and to develop reading interests. The goal of instruction in basic reading is to equip the pupil with those reading skills that are common to all reading situations and purposes. Research shows that the most successful programs in this area are usually based on good textbooks.

The program in the area of reading study skills teaches the pupil to locate information on a topic or question, to evaluate material read, to organize material read and to develop abilities essential to deciding which parts of material read should be remembered and how to secure retention of the material. Instruction in reading study skills is also usually developed through the use of basic textbooks and application made in reading in content subjects.

The program in the area of children's literature develops interest and

²⁸ *Ibid.*, p. 3.

tastes for reading a wide variety of material. It is recognized that instruction begins where a child's interests are; however, present interests are to be developed and the child is to be encouraged to develop new interests. This program is closely allied with the library and many interesting and attractive books in room libraries.

The program in the area of oral reading aids the pupil in developing a pleasant voice, better habits of speech and the ability to read in an audience situation. Some types of literature such as poetry are also included in basic reading skills when purposeful. Dramatization and presentation of plays written by the group or individuals provide rich resources for the development of purposeful oral reading.

The program in the area of free choice or recreational reading provides reading materials in the classroom environment and provides time for the pupil to select reading material that gives him recreation. This program also gives the teacher an opportunity to observe and help to develop each child's tastes and interests in his independent reading. Free reading presents the child with opportunities to explore new fields and develop new tastes which in turn sharpen his appetite for reading.

Attention is called to the word *unity*. At no time in this program is any one area *the* developmental reading program. At different times the programs in one or more areas may parallel each other, or supplement one another and at other times merge in the total school program. For example, accepted reading procedure is to read a selection silently before reading orally; it is trite to mention that oral reading is frequently used in the program in basic reading to verify facts, to read answers to specific questions or to serve other purposeful needs. These few facts are stated to forestall the idea that five separate programs are in progress at one time. As stated, the instruction in the various areas unites to form the complete developmental reading program.³⁹

THE DEVELOPMENTAL READING PROGRAM: THE PRIMARY GRADES

In the primary grades much attention must be devoted to the development of readiness for reading. So important is this phase of the program that consideration will be given to general problems involving readiness, to readiness programs in the kindergarten, readiness programs in the primary grades, and to explaining how the

³⁹ *The Road to Better Reading: Promising Practices in Reading for a K-12 Program*. Albany, New York: Bureau of Curriculum Development, New York State Education Department, 1953, pp. 98-99.

readiness program is interwoven with the developmental program at these levels. Readiness is so inextricably a part of any program at any level in the elementary school that this close relationship will be emphasized repeatedly in considering reading instruction.

Readiness for Reading: General Considerations

The reading readiness concept, which now enjoys widespread acceptance, is a relatively new one. In the not too distant past, very serious errors were committed by the teacher who presented experiences and materials prematurely, and these errors have not completely disappeared today. Many teachers who lacked experience or whose understanding of reading readiness principles was inadequate were undoubtedly guilty of forcing children to undertake tasks for which they were not ready.

What is readiness for learning? Burton makes the following points:

[The] principle of readiness for learning means just what the common-sense interpretation of the word indicates. Readiness is the stage in a child's development when he can learn easily, effectively, and without emotional disturbance. It cannot be a definite point in development, however, because growth is a steady, continuous process, always ongoing. Rather it is a general condition which enables us to say that a child is ready to read, ready to study arithmetic, ready to interpret time in history, ready to attempt creative composition, ready to participate in group activity. Readiness for these and other types of learning activities appears at widely different periods. A child may be ready for certain types of learning experiences in infancy and not be ready for others until the period of adolescence. The emergence of readiness for any type of learning and with any individual is affected by a number of factors, physical, mental, emotional and social.⁴⁰

The observation is often made that children of five are too young to read, that children of seven should have been given direct instruction before that age, and that six is the optimum age for

⁴⁰ William H. Burton, "Readiness: A Basic Principle in Beginning Reading," Curriculum Bulletin No. 147. Eugene, Oregon: School of Education, University of Oregon, 1955, p. 2.

beginning reading instruction. Such comments are not made, however, by well-informed teachers, nor are expectations built upon such faulty premises by well-informed parents. Monroe has pointed out that "the earliest efforts at reading do not take place at school in the first grade when children are six years of age. Books, magazines, papers, signs, posters and reading materials of all kinds are so much a part of our American culture that most children have had many experiences with printed materials from early infancy."⁴¹ Experienced teachers will be prompted to reflect not only that many children have *not* had experiences with printed materials before six, but also that many experiences that have been had are of questionable value.

Monroe maintains that *pre-reading book behavior* may be divided roughly into eight stages that follow a definite sequence. The rate and age at which each stage appears depend upon the interests and abilities of the individual child, upon the richness of his environment in books, and upon adults who take the time to read books and talk to him about them. The eight stages are identified as follows:

1. *Manipulation.* Age, about a year.
2. *Pointing.* Age, about fifteen months.
3. *Naming.* Age, about eighteen months.
4. *Simple narrative.* Age, about two years.
5. *Interpretation.* Age, about two and a half years.
6. *Storytelling, notice of print.* Age, about three years.
7. *Differentiation of real and fantastic.* Age, about four years.
8. *Reading readiness period.* Age, about five or five and a half to six or six and a half years.⁴²

A study which tends to substantiate this position was reported by Ilg and Ames, who studied a large group over ten years' time. They endeavored to develop what they called "gradients," by means of which, they believed, observers might obtain a better picture of a child's total integrated performance at any step on the trail traversed from the age of fifteen months through ten years of age.

The child's ability to read does not develop suddenly at or about the time of school entrance. The roots of reading ability lie far back in the

⁴¹ Marion Monroe, *Growing into Reading*. Chicago: Scott, Foresman and Company, 1951, p. 3.

⁴² *Ibid.*, pp. 7-20.

pre-school years, at least as far back as fifteen months when the child is able to put identified pictures in a picture book. From then on, reading ability develops by slow stages through the time when the child can name objects printed in a book, recognize salient printed capitals, recognize salient printed words in a familiar book, until the time when he can read sentences, recognizing unfamiliar words accurately and rapidly. These and other stages follow each other in lawful, inevitable order. The richness of detail of the pre-reading stages is frequently overlooked, as well as the need to delay exacting school requirements in reading until the child has reached a stage of ability which fits in with the demands made upon him.⁴³

Another study of interest is reported by Anderson and Hughes.

Many parents as well as teachers have difficulty in understanding why children with better than average IQ's are often delayed in learning to read. The usual reaction in such cases is to blame the methods and materials of instruction, but the fallacy of this diagnosis is revealed by the large number of children who learn to read readily under these same instructional conditions. A better argument concerns the growth of the child as a whole.⁴⁴

Anderson and Hughes report that their findings show that the way the child matures as a whole is more important than growth in any single attribute. An adequate appraisal can be made only when all aspects of growth are considered simultaneously, and a more complete study of growth may reveal that the child is less mature than his mental age alone indicates. They conclude as follows:

When children are not ready, from the standpoint of maturity, to read, formal reading instruction is largely wasted and even the best methods are of no avail. It is not a question of method, but of maturity. Almost any method will work when children are ready. The effect of method on reading growth is much less than is commonly supposed. Individual factors have a vastly greater effect.⁴⁵

This does not constitute a suggestion that the teacher and parent should merely sit by and wait for readiness to flower. To do so

⁴³ Frances I. Illg and Louise B. Ames, 'Developmental Trends in Reading Behavior,' *Journal of Genetic Psychology*, 76:291 (June 1955).

⁴⁴ Irving H. Anderson and Byron O. Hughes, 'The Relationship Between Learning to Read and Growth As a Whole,' *University of Michigan School of Education Bulletin*, 26:65 (February 1955).

⁴⁵ *Ibid.*, p. 60.

would have serious consequences for the child and for the program of the school. Broad programs of readiness activities should be introduced which will stimulate children to extend their backgrounds of experience when this is both necessary and desirable. Since individual differences in any classroom are tremendous in their range, the demands of home and school must at all times be paced to the child's level of development. Teachers must be extremely careful in their determination of each child's level, alert to and cognizant of the readiness clues that the child will reveal of his functioning in a given situation or activity.

Readiness for Reading Programs in the Kindergarten

The practice of establishing kindergartens in public schools is very old in some sections of the United States, while in others they have not yet made their appearance. Teachers frequently direct the attention of interested parents to unbiased statements which answer questions frequently posed. Examples of these include: *Let's Look at Kindergartens*⁴⁶ and *About Kindergartens*.⁴⁷ One question in particular keeps recurring: "Is there a kindergarten reading program?" Edwina Deans believes that the answer depends on what is meant by a kindergarten reading program:

Kindergarteners will not learn to read from books, to recognize words and phrases, to build a sight vocabulary. On the other hand, the child experiences many situations from babyhood which directly or indirectly lead toward readiness for reading. Let us consider the kindergarten year as a period in the child's life when he shares such experiences with others to a greater extent than he has done before, when he is guided in filling in gaps which his more carefree experiences have left, when he is helped to gain as much meaning from each experience as is possible for him, when certain experiences are selected because they further learnings which have value in terms of present and future growth. Certain phases of these experiences have implications for reading. Such experiences are

⁴⁶ *Let's Look at Kindergartens*. Department of Kindergarten Primary Education, Washington, D. C.: National Education Association, 1956.

⁴⁷ *About Kindergartens*. New York: National Kindergarten Association, 1957.

planned in the mind of the teacher with some consideration for sequence of abilities. In this sense, they constitute a reading program for the kindergarten child.

In a well-rounded kindergarten program, almost everything a child does leads toward reading in some way. The child is developing these abilities when he paints a picture which tells a story, when he sticks to his job of making a boat until it is completed to the best of his ability, when he carries out directions accurately for playing a game, when he uses his imagination in interpreting rhythms. In other words these abilities are not limited to reading and therefore need not be developed by reading alone, though they are basic to success in reading.⁴⁸

The perceptive kindergarten teacher helps the growing child in many ways to develop along lines that will enhance his later readiness for work with materials necessary for independent reading. One of the most important contributions he can make is in the *development of favorable attitudes toward reading* through such activities as story-telling, the reading of stories and poems, conversation, and language. Listening, too often overlooked as an important factor in reading readiness, can be fostered.

Reading as an interest, but not as a skill, should be fostered by the kindergarten. Unless a child is extremely advanced, he should not be introduced to actual reading experiences in the kindergarten. The kindergarten year is far too necessary for the development of common background experiences to be used for reading activities for which most five-year-olds are too immature. This year should be a period in which children acquire an enlarged and more meaningful vocabulary, develop basic oral-language habits, gain confidence in presenting ideas spontaneously to the group, and learn to listen while others speak. Even though the five-year-olds enjoy and profit from readiness activities, such activities must not be allowed to become ends or chief points of emphasis in the kindergarten program. The activities are of value only in the degree to which they are related to the interests and everyday life of the kindergarten child. Any activity used for the furthering of readiness in children should be fun for them. If they do not take pleasure in a particular activity, then it is probably too advanced for their stage of readiness and may become a source of strain or tension to them because they are unable to make the expected response. Above all, nothing should be introduced which will interfere with the child's joyous adjustment to his first school, since the happy,

⁴⁸ Edwina Deans, "Is There a Kindergarten Reading Program?" *Schoolmen's Week*, 53:95 (September 1952).

stimulating environment of the kindergarten should lay the foundation for enjoyment of all his future school experience.⁴⁹

Not all schools have kindergarten programs, and even if they did there would be many young children for whom kindergarten experiences would not be available. Kindergarten experiences can be and generally are of great benefit, but the fact must not be lost sight of that there are some children of five years of age whose place is at home and with mother. The child who is slow in maturing, the child whose family has moved about a great deal, the child whose young years have been crowded with illnesses or with upsets of an emotional nature, is undoubtedly better off if kindergarten experience is delayed or denied until such time as ability to cope with informal school programs is likely to eventuate. In short, although kindergarten experience is desirable, its lack is not necessarily a handicap in the primary grades.

Readiness for Reading in the Primary Grades

Since growth is an on-going process, any program of reading readiness must be the province of more than one teacher. Reading readiness, or readiness for any of the skills areas, cannot be the exclusive concern of the kindergarten teacher, nor of the teachers in the primary grades. Readiness is a potent factor in the learning of the child at whatever his grade level, or whatever the subject. Thus, provision for activities which assist in making the child ready is within the province of every teacher, and he cannot neglect this responsibility. Bartlett has summarized this point as follows:

Readiness is not a static conception. It does not imply, at the pre-reading level, a stage at which a child is a nonreader in contrast to a later stage at which he is a reader. At other levels of the primary and intermediate grades, it does not imply a plateau on which a child remains inactive, resting, as it were, after a strenuous climb and gathering strength for the next arduous ascent. Rather it means a continuous series of learnings, each learning growing out of those that have preceded it and pointing to

⁴⁹ Ethel Vandenberg, "Readiness for Language Arts Begins in the Kindergarten," *Elementary School Journal*, 53:448; 453. Copyright 1953 by the University of Chicago Press.

those that will follow it. It does not include reading alone but rather the reading child, since reading is merely one aspect of a total pattern of growth.

Because it is a developmental process, it cannot safely be arrested. The teacher's concern for adequate preparation has in some cases led to undue deferment of beginning reading. To hold back the child who is ready for reading is as unwise as to force the child who is not ready. The typical modern reading program, with its dynamic methods and its child-like materials, makes possible an earlier beginning than was feasible with the formalized procedures and forbidding tomes of an older day. The child's readiness should be appraised in the light of his own attainment and the reading program he will use. Such appraisal is necessarily an individual matter. Within an average group entering first grade the teacher will find many varying stages of readiness for reading. She will also find, as she begins pre-reading instruction, that the children progress at varying speeds toward the goal of actually beginning reading.⁵⁰

Teacher expectations, parental expectations, and pupils' own expectations all point toward early involvement with books. But almost all children who enter first grade, with or without kindergarten experience, will require experiences which can be gained through involvement in pre-reading activities. Since the teacher will be in no position in the early days of school to assay the exact needs of all of his children, his approach is necessarily tentative and exploratory. Because research and study of the reading process has resulted in the identification of rather specific goals in pre-reading instruction, he will accept responsibility for decisions with respect to any given child's readiness for certain activities. These decisions will be guided by what he knows, or can learn, about the child and by what sound practice indicates. Although programs of readiness will vary according to situations encountered, certain features can be identified which remain rather constant. Among these general features are the following: provision for the child's adjustment to the school situation; development of a background of experience which will insure the meaningfulness of reading; extension of the child's command of oral language and the formation of good speech habits; arousal and encouragement of interest in reading and the desire to read; and introduction of the essential reading techniques.

⁵⁰ Mary M. Bartlett, "The Reading Readiness Program in the First Grade," *Teachers Service Bulletin in Reading*, 15:1. New York: Macmillan Company. Copyright 1953. By permission.

The teacher will keep these common features in mind as he is focusing attention upon certain skills to be developed. His program will consist of a wide variety of experiences in conversation and discussion, trips and excursions, listening to stories and poems, observing pictures, films and filmstrips, working with various kinds of experience charts, and similar activities. These experiences will be introduced gradually and only after the teacher has become as familiar as he can with each child's needs, from observations made in and about school, from intelligence and reading readiness tests, from school records, and from parent interviews. It is during this period that he attempts to develop five areas of pre-reading skills:

1. Language abilities and habits of working in a group.
2. Left-right directional sense.
3. Visual discrimination abilities.
4. Auditory memory and discrimination.
5. Word meanings and concepts.

Developing Language Abilities and Habits of Working in a Group

Beginning teachers who are inexperienced in dealing with young children are sometimes disturbed to learn that many first-grade children in their charge have not matured sufficiently in their language usage to permit free exchange of ideas or sharing of experiences. Such children are not ready for participation in "Show and Tell" or in any similar situation calling for ability on their part to describe a happening or an object with high interest value to themselves as participants in group activities. At this stage the teacher should help to instill habits of listening and remembering as his pupils progress toward an ability to express themselves orally. Inexperienced teachers find it difficult to believe that there are many first graders who express themselves in monosyllables—"yep" and "nope" children whose drab and meagre backgrounds have never included an "audience" and the experience of feeling free enough to express themselves—for indeed, in all too many instances there has been nothing to express.

The importance of good listening habits cannot be overstressed,

but listening is an area in which many teachers have failed to recognize opportunities for the development of skills which will greatly enhance purposeful reading at a later stage. More than mere "paying attention" is involved, although this may be a necessary prelude to the development of appreciational and purposeful listening.

Developing Left-Right Directional Sense

Kochring maintains that there is one important point in selecting pre-reading activities designed to develop left-right orientation that should not be overlooked.

It is the child's discovery that only if words or a related series of pictures are read in the "proper" direction do they make sense. This gives the surest guidance to his moving eyes. If a child approaches reading as a thought process, then sense-making is the natural check upon the direction of his eye-movements. Perhaps the eyes would need less muscular training if two factors were assured as a child gets ready to read: (1) motor maturity to make possible easy control of the eyes, and (2) experiencing reading always as a thought-getting activity important to the child.

Beyond doubt, development of efficient eye habits is extremely important to good reading. Without expecting too much all at once, parents and teachers should naturally encourage and stimulate young children to look at a sequence of pictures, sentences, or letters in a word from left-to-right. This they can do in many pre-reading activities. Good teachers employ sensible methods, such as the functional one of making clear to children what she is actually doing as she reads to them. It must be remembered always that emphasis upon direction of eye-movement will be appropriate only in relation to the actual physical and mental maturity of the child as he approaches readiness to learn to read.⁵¹

Very often the inexperienced teacher thinks a child knows his left hand from his right when he is told that we read from left to right. In presenting this fact to the child the teacher must be very careful as he faces the child or the group, and he must realize that children are superb imitators. Thus, he must provide experiences which will show children the differences from where they sit or stand. As the teacher faces his group showing the left hand he may find

⁵¹ Dorothy M. Kochring, *Getting Reading to Read*, Educational Service Publications, No. 15, Cedar Falls, Iowa: Iowa State Teachers College, 1952, p. 11.

that children will imitate, but by using the right hand. This is a small point, perhaps, but one that can confuse further a differentiation which must be made, and made early, if the child is to learn effectively and efficiently.

Developing Visual Discrimination Abilities

The ability to distinguish between symbols which look very much, or somewhat, alike, must become part of the child's equipment for reading. Much of the early confusion which a child may display is perhaps transitory and would disappear in time, but there must, nevertheless, be specific training in various visual abilities. If this confusion persists, there is reason to believe that the child's later progress will be seriously impaired. There is no doubt that many young children pass through the pre-reading and early reading stages without having mastered this important reading skill. Not all children are "eye-minded," but since so many of the facets of the well-rounded reading program are based on discriminatory ability, the teacher must address himself to the proper selection and presentation of activities and experiences which will lead the child to *see*, and *see accurately*, what is presented on the printed page.

Developing Auditory Memory and Discrimination Abilities

Some children respond readily to ear-training exercises which lead to the development of discrimination in the speech sounds. Others appear definitely not to be "ear-minded." The teacher must then consider whether it is appropriate to introduce such exercises at that time, whether the child suffers from impaired hearing to a lesser or marked degree, or whether the exercises themselves are of the right kind for the purpose envisioned by the teacher. Reading systems have been introduced which place great emphasis upon the early identification of the speech sounds on the part of *all* students, and to the extent that such emphases are stressed, the program will not adequately care for the needs of many children. The development of auditory sensitivity is a desired goal, but its achievement must not be stressed to the detriment of other skills.

Developing and Extending Word Meanings and Concepts

Many inexperienced teachers have difficulty in realizing the fact that merely because the child says the word and uses it appropriately in a given context, it does not signify that the word has real "meaning" for him. From time to time such teachers will be heard to say, "How well he uses words! I know he is a very intelligent child!" But does the proper use of a word in a given situation mean that the child possesses an understanding of the concept behind that word? Does he really *know* what he is talking about, or is he merely verbalizing? Is he paying lip-service only, or is the word *really* his, together with the meaning behind it? *How does the teacher know that the child knows the meaning of the words he uses?*

What, indeed, is meaning, and how is it developed? Burton maintains that "meanings are derived from experiences, as are all learning outcomes. Meaning, in simple terms, is the grouping of ideas, feelings, likes and dislikes which an individual builds up as he deals with, i.e., has experience with, things, processes, situations, symbols. Meaning is demonstrated through the behavior of an individual."² For Burton, the first level in the development of meaning consists of activities which enhance the differentiating of persons, things, and other items within the immediate range of experience. At the second level in the development of meaning, there are more precise sensory discriminations within a pattern, together with increasing use of words. At the third level, the development of meaning becomes a process of clarifying and extending meanings, of creating new ones chiefly through the use of language.

Realizing the importance of the development of meaning in reading, the teacher is sometimes hard put to achieve this goal for and with his children and at the same time pay due regard to the encouragement of the factors of interest and self-motivation. The child who has enjoyable first experiences with reading will return to reading again and again so long as he realizes that he is able to recreate his pleasant earlier experiences. Stress on meaning, impor-

²William H. Burton, "The Nature and Development of Meaning with Special Reference to Beginning Reading," Curriculum Bulletin No. 149, Eugene, Oregon: School of Education, University of Oregon, 1955, p. 2.

tant as this factor is, *cannot* be permitted to interfere unduly with the child's budding interest.

It should be clear that the realm of reading readiness is not the province of first-grade teachers only, any more than it is the province of the kindergarten teacher. There is a readiness program which is the concern of the second- and third-grade teachers. It is in this upper primary period that the development of certain basic skills and definite readiness activities is required if the child is to experience success in his undertakings. Among these is readiness for *content reading* if this need has not already manifested itself earlier. Bond suggests that at this period the readiness program should be considered from four different points of view:

1. Introduction of the content as it is concerned with the children's interest, background, purpose, and vocabulary.
2. Teaching the children the use of techniques in order that they may progress in their independent work.
3. Preparing children for the work of subsequent grades.
4. Stimulating children to make good use of their reading.⁵⁴

Consideration of these points of view will present revealing glimpses of the nature of the teacher's efforts at the second- and third-grade levels. Pupil motivation will take on increasing importance. Now more than ever, perhaps, the teacher has an obligation to guide his children in seeking worthwhile reasons for turning to the reading task. Should he fail in this guidance, reading becomes aimless—becomes in short, a matter of coverage. Without purpose the child becomes quite adept at discerning the trees that make up the forest, but never sees the forest for the trees. Once launched upon word-for-word reading, the child is throttled by a habit which may persist throughout his reading lifetime, and, as has frequently been the case, this reading lifetime then tends to be a short one. If all his purposes are teacher's purposes and if he has not shared to some degree in their determination—if as a pupil he has not been helped to develop his own purposes—his likelihood of ever becoming really at home with reading diminishes as he progresses through the grades. How many times has the question been asked: "I wonder

⁵⁴ Guy L. Bond, "Readiness for Reading in the Second and Third Grades," Reading Bulletin TB, Chicago: Evans & Carnahan Company, p. 4.

what has happened to him? He *used* to be such a good reader!" The answer is not far to seek—he never really knew what he was reading for.

The Reading Program in the Primary Grades

It must be emphasized that the reading readiness program as described in the previous section is not a special, separate and discrete, program—it is part and parcel of the developmental program which is a *unity* of instruction in five areas. Attention is again directed to the fact that the readiness program and the developmental program proceed together, paced to the individual needs and differences of the pupils—there is no separation. In the primary grades the *basic reading* aspect commands the teacher's first attention, but this does not mean that the *reading skills*, *children's literature*, *oral reading*, and *recreational reading* areas are neglected. It is a matter of proper emphasis and balance, but at the beginning the teacher of necessity concerns himself with the basic or *foundational program*.

Many inexperienced teachers approach the opening days of school with considerable trepidation. Usually their fears are unfounded for provision is made for their close supervision and guidance, from either the building principal or the supervisor. Assistance can be expected from the "teacher in charge" or from some more experienced staff person. Many school systems provide "manuals" which acquaint the beginning teacher with customary routines and suggestions for organizing and carrying on the day's work. In general these suggestions follow such lines as these:

A good day for school beginners presents many opportunities for the teacher to provide a variety of experiences which are actually pre-reading activities. Prior to any formal work with books, it is essential that the children have the following kinds of experiences, whether the level be kindergarten or first grade:

1. They go to the park for a day in the fall. Before going they decorate and put handles on paper bags for the collection of leaves,

flowers, and acorns that are found en route. When they return, some of the leaves are tacked on the bulletin board under the printed symbols for their names: *oaks*, *maples*, *elms*. Thus, very early the beginning teacher not only can provide meaningful experiences for the group, but also can start the long but very necessary building up of a stockpile of sight words—words which the children will be more than likely to encounter in first books.

2. They listen to favorite stories over and over again and often learn them so well that they can “read” them to others. They listen to short poems or rhymes in the same way. The beginning teacher cannot neglect this “listening” phase; time spent at the outset in teaching the skills of listening and remembering ensures a firm foundation for important skills which are developed later.

3. They have a pet rabbit and after feeding him, watching him, and learning his habits, they make up a story about him. This is printed for them and read by the teacher and the more able children until almost everyone knows it. In this way, with the gradual development of the narrative type of *experience chart*, the child’s basic sight vocabulary is enlarged. It is here that the stockpiling of words earlier undertaken as an accompaniment to the trip or excursion, receives real emphasis. A valuable resource for the beginning teacher is *The Use of Experience Charts in the Primary Grades: A Guide to Grades 1-3*,⁵⁴ or *Techniques for the First Grade Teacher*.⁵⁵

4. They build a city. Before building it they spend considerable time in planning. Plans are printed for them and read by the teacher and more able children. Lists of committees are also printed and the children find their own names and the names of their friends on these lists. Stores in the city are given names which are printed by the children and pasted on the buildings. Boxes of goods are labeled by the children and such labels are read. Houses are given numbers and these numbers are learned and read. In activities such as this the beginning teacher has much assistance from such a resource as *Children and the City*.⁵⁶

⁵⁴ Educational Research Bulletin No. 13, New York: Bureau of Educational Research, Board of Education of the City of New York, 1952.

⁵⁵ *Techniques for the First Grade Teacher*, Chicago: Board of Education, 1952.

⁵⁶ Olga Adams, *Children and the City*, Chicago: The Laboratory School, University of Chicago, 1952.

5. They have a quiet time for looking at pictures and picture books and "reading to themselves."

6. They use reference books in looking up information about the city. In this way they come to understand that things can be learned from books as well as from actual experiences.

These kinds of activities are continued as the teacher tries to find out, by observing the children's behaviors, precisely where they are in reading or readiness for reading. On the book tables and in the book cases around the room are books for children at all stages of reading: picture books, books with many pictures and scant print, pre-primers, primers, and readers. The children are given abundant opportunities to read but are not forced to do it. Some children spend the time rapidly leafing through the books and going from book to book. Others sit down with a book and become absorbed in it. Here is the opportunity to identify the real readers and the children who need teaching.

Gradually other kinds of opportunities for reading are opened up. The children have decided to make cookies. They decide upon the kind they want. Someone brings a cookbook and a recipe for that kind of cookie is selected. The recipe is printed in large letters so that all may read it. With the aid of the teacher the group figures out how much of each ingredient must be purchased in order to make cookies for the class. A marketing list is prepared by children who are interested in writing and are able to do so. There is a trip to the store. The ingredients are brought back to school. At the designated time the baking begins. The recipe is placed where it can be followed as the cookies are prepared for the oven. The thermostat is watched to see when the temperature is right for cooking.

On other occasions the children may be studying the farm. They have decided to give a play which will show the differences between country and city living. They listen to stories about the farm. They may tell of farm experiences. They look at pictures or read, as they are able, and give their ideas to the group. They make a list of differences between farm and city living which is read and discussed. They plan and paint their scenery. They make programs for their guests from another room, or their parents, showing what goes on in each scene. The following is a list of scenes prepared by one primary group:

1. Ann and Bob receive a letter inviting them to visit Bill, Jean, and Lucy in the country.
2. They go to mother and read her the letter. She says they may go.
3. The children have packed their suitcases and father takes them to the station.
4. Bill, Jean, and Lucy meet them at the country station.
5. The children get into country clothes and go out to visit the farm.
6. The barn is an interesting place to visit. Different from anything in the city.
7. The orchard is a wonderful place to play and they find apples.
8. The farm house is different from a city house.
9. The farm machinery is different from anything they see in the city.
10. Good-bye to the farm.

On another occasion a child has a turtle which he brings to the room. The children feed it and observe its habits. They talk about turtles and their discussion is recorded by the teacher on a chart. They talk about other things that have shells, such as eggs, peas, and beans. They talk about the reasons for shells. Again their discussions are recorded on charts and read first by the more able children and then by some who are just beginning to read a few words.

One child has been on a vacation trip to Alabama and he has returned with some pictures of cotton plants in bloom and of a mill. He has also brought some cotton. These exhibits are arranged and the bulletin board carries a story about his trip. Here the child who has made the trip reads his adventures to the group and others read it silently.

In addition to the reading that grows out of such experiences, and the silent individual reading, there is group reading for specific purposes. Ada Polkinghorne, formerly of the University of Chicago Laboratory School, describes her approach in her primary group. Both six- and seven-year-olds are in this primary group, and members of the class are not called first graders or second graders, but rather primary children. In it she has twenty-nine pupils, and she has a practice teacher assistant. Her school has had a long experience with ungraded primary grouping, and since the school is well equipped and fortunately situated, she and her practice teacher assistant are

able to work under near optimum conditions. While not all schools are similarly organized or situated, many are coming to recognize the promise of ungraded groups, and her suggestions have implications for beginning teachers.

1. Six year olds who have not learned to read alone are helped to do so. The following materials are used: (a) Charts or big books; (b) Pre-primers, of which many sets are on hand; (c) Word cards and word charts. Right from the beginning the approach is from the standpoint of pleasure. The story is the important thing and we share in the fun of reading it. The teacher is one member of the group and reads orally in turn with the children, especially when there is a difficult page. We follow the idea that children learn to read by reading, and that much more time should be spent upon reading than upon drill and testing. Most of the good texts in reading have so much repetition of vocabulary that with wise use and a small amount of word study the child can build an adequate vocabulary.

We have found one method of working with words that seems to help a great deal. After we have read and enjoyed the story we turn back and look at the words that are new in that story. I write them on the board and the children tell how they recognize them when they use them. This leads us into a certain amount of phonics and spelling. We do just as much of this as the children are ready for, and no more.

Most of the publishers of basic reading series also publish workbooks to accompany the texts. We use one or two workbooks with our six year olds because they give the children some new kinds of experiences as: finding the answers to questions, following directions, and comparing forms.

2. Six year olds who have learned to read and some seven year olds who are reading at various levels, as in primers and first readers, are grouped according to their progress in reading, regardless of their age. Each group is fortunate in that it is possible to arrange for space and there is a teacher who can devote time to its members. This makes it possible for us to work with four or five reading groups in the period devoted to reading and games. We do not make individual reading records, for we believe that this is a device that can build tensions. We keep a list of books that are out and this is never connected, in the minds of the children, with a record of work done at home. Yet, it tells us who is interested enough to take books home.

3. In the afternoon, all of our children read again. Teachers have reading groups ranging in size from three to twelve pupils. The able readers are in larger groups. The less able ones are given a great deal of individual help of the kind they especially need. There are the following types of groups:

- a. Young precocious readers who cannot at this time read a book like Nida's *Robinson Crusoe*, but who delight in *The Farm Twins*.
- b. Mature children who are able readers and want books like *Robinson Crusoe*, and *Men, Animals and Machines*.
- c. Children who are reading well but need to gain speed.
- d. Children who need help in techniques of word recognition.
- e. Children who need help in background skills, as auditory and visual discrimination, direction, attention, and motor control.

The judgment of the teachers based on test results and all available records are used for making up these groups.⁵⁷

In such a program it can readily be seen that the teacher's primary purpose is to help children grow and experience enough satisfaction in reading to be encouraged to *want* to go on. During these early days in school they must sense their achievement to the extent that they will be content to work hard throughout the primary grades when the fundamentals are being acquired. Such a program for children can truly be called *developmental*, although for purposes of illustration this description has dwelt at length upon *basic* aspects of the program. It should be obvious that due attention was being paid by the teacher to reading study skills, literature, oral and recreational reading, the other components of the developmental program.

As was observed earlier, many school systems provide beginning teachers with manuals or specific written recommendations for use at various levels in the primary grades. Some beginners require the security which such a guide affords and, with confidence gained, modifications frequently result. Such a guide is one provided by the Board of Education of the City of Chicago. Entitled *Techniques for the First Grade Teacher*,⁵⁸ this booklet is composed of four parts: the first part deals with characteristics and needs of first grade children; the second part suggests activities for the first school day, and the first school week, and for typical programs, the third part presents independent reading activities, the fourth part contains **seat work and educational games**.

⁵⁷ Ada Polkinghorne, "Young Children and Their Reading," Unpublished manuscript in mimeographed form, The Laboratory School, University of Chicago.

⁵⁸ *Op. cit.*

It will be useful to examine carefully the sections of such typical guides that are concerned with the first days of the beginning teacher. In the Chicago publication there is a subsection called "A Happy First Day in First Grade." This is followed by "The First Day in First Grade," which shows the beginning teacher how time allotments are made for the various activities. This day grows into "The First Week in School," with detailed suggestions for suitable introductory activities. "Accomplishments for the First Week" lists things which the teacher would want his pupils to know in the opening days—recognizing the orderly procedure of the school, coming in and going out, at recess, in the lavatory; knowing the different parts of the school to which they may have access; having some acquaintance with symbols; names and color recognition; knowing about handling the work tools—paper, pencil, crayons, chalk, erasers, scissors, paints, books. Consideration is also given to things the teacher should know—something about the needs and abilities of his group in terms of their backgrounds of experience; their interests; their age span, chronological and mental; their voice development; cases of left handedness, eye or speech defects; names of children and information for their cumulative records; the time allotment schedule. Other sections of the guide discuss independent reading activities, both individual and group.

A different type of teachers' manual or guide may afford the beginning teacher great assistance in his early days in the school system. Such a guide is published by the Jacksonville (Illinois) Public Schools. Called a "Reading Handbook," this handbook in no way replaces suggestions made in manuals incorporated into the reading series used in this school system. It outlines ways in which three sets of reading materials may be used to provide for differences within each classroom. Thus, the teacher is told that following testing for readiness, pupils who rate high or very high on a given test will begin work in a specific pre-primer. Those who rate average or below are to begin in a pre-primer judged to be of lesser difficulty, while those who rate low or very low on the readiness test are assigned an even simpler pre-primer. In addition to such direct reference to books, the teacher is enjoined to supplement these materials with excursions, films, filmstrips, stories, poems, and oppor-

tunities to engage in oral expression. Supplementary reading, that is, reading from books other than those in the three basic series, is provided for, and teachers draw from well-stocked shelves in both room libraries and the building library. Teachers at all grades through the fourth are given specific help with suggestions for types of problems commonly encountered.

Considerable attention might well be devoted to ways that schools organize for classroom instruction in reading in the pre-book and book reading stages in the primary grades. The plans which have been briefly discussed do not exhaust the possibilities by any means but are illustrations of techniques that are actually used in different school situations. Further attention will be directed to grouping of pupils in later sections.

Phonics in the Primary Reading Program

It has been implied in the foregoing sections that instruction in phonics is part, but only part, of the program. So heated have discussions become, however, with respect to the role of phonics instruction in reading programs that the beginning teacher must be informed of acceptable practices as well as dangerous overemphases which are sometimes encountered in what would otherwise be well-balanced programs.

Basically, reading is both a *mechanical* and a *meaning-deriving* process. To the extent that the mechanical aspects intrude, or to the extent that the *process* of reading is overemphasized, meaning-deriving is either unassisted or impeded, and the *product* is seriously distorted. Phonics instruction is not something new, but of late its emphasis in some schools has been a grave cause for concern.

We have pointed out that the reading process is characterized by three phases: mass action, differentiation, and integration. It is in the second stage that the child can profitably begin to notice the details of words and effectively engage in word-attack. At this stage Johnny can see the word *map*, and associate the *m* with its sound, the *a* with its sound, the *p* with its sound, then blend the

sounds into the auditory word *map*, and finally associate that sound with the meaning of the word. There will, of course, be children who are ready for this kind of skill development at a relatively early stage. There will be more, however, for whom this must wait. Writers on teaching reading have taken positions and argue vehemently for stress on phonics, or for balanced consideration of phonics and other word-attack skills. As Russell has observed: "Teachers' positions on phonics undoubtedly range from those who believe in teaching reading without any use of phonics whatever to those who regard the method as the only way of teaching, to be pursued vigorously in workbooks and in letter- and word-sounding exercises. Between these extreme positions most teachers would undoubtedly place themselves."⁵⁰

What is phonics? Phonics may be simply defined as a sounding method by which the child works out the sound of what the word may be from the letters that make it up. It is *one* technique of assisting in word perception, but it is *only one* of perhaps half a dozen acceptable ways in which the child can attack new and unknown words. As the child is able to fall back on his repertoire of aids to unlocking new words, he functions as the able and mature reader does, and meaning is enhanced without loss of interest. To the extent, however, that this arsenal of aids is burdensome in its application, interest suffers and the *desire* to read is dissipated.

A good word-perception program, which employs more than phonetic analysis, is an integral part of the developmental reading program of the primary grades. It is based on a sound readiness program designed to prepare pupils for associating spoken and written language. It is for this reason that experienced teachers are reluctant to emphasize any phonics instruction before the child has obviously acquired a stockpile of sight words which will insure his successful venture into books at the pre-primer and primer levels. As the teacher painstakingly assists the child in acquiring this basic sight vocabulary, he is careful to avoid the use of techniques which center upon letters, for he wishes the child to see words as *wholes*, as he *can*, provided undue emphasis upon elements does not intrude.

⁵⁰ David H. Russell, "Teachers' Views on Phonics," *Elementary English*, 32:371 (October 1955).

The primary teacher therefore, introduces phonics work gradually, and only when he is *absolutely certain that the child is ready* for such instruction. In the first grade he will at some time concern himself with introducing work to acquaint the children with the sound and appearance of consonants in the final position in words, like *l, t, m, s*. In addition, he wants his pupils to recognize the sound and appearance of *ed* and *ing*, and to recognize words formed by adding these endings to roots of words and words themselves. Sometime during the first grade he will try to assist his pupils in recognizing and relating the sound and appearance of consonants appearing initially in words, such as *h, b, s, m, n, t*.

The beginning teacher is guided by the manuals which accompany the basic reading series that he is using with his pupils. Usually the steps in teaching any phonetic or structural element are the same. The following steps in teaching the sound of *m* are suggestive of the procedures used in teaching the sound of any consonant.

1. The teacher gives familiar words beginning with the sound of *m*.
2. The teacher gives simple sentences in which the pupils listen for words beginning with the sound of *m*, for example, "My dress is blue." "Mother is coming home today."
3. The children give words that they know which begin with the sound of *m*.
4. The words are written on the blackboard.
5. The children notice that each word begins with the same sound.
6. Individual children read these words, using clear enunciation.
7. The list is printed on a tagboard chart.
8. The pupils pronounce the words and play games.

In brief, what the teacher does is: (1) Teach the sound; (2) Teach the form of the element; (3) Show how sound and form are associated; (4) Give practice; (5) Use practice employing the new element plus context and pictures to identify strange words.

In the second grade the teacher will continue the work undertaken by the first-grade teacher, but will, sometime during the year, also introduce short vowels, long vowels, one vowel followed by *l*

or *w*, governed by *l* or *w* (small, walk, caw), and vowel diphthongs. Before undertaking work with vowel sounds, however, the second-grade teacher will be careful to review the phonics work presumed to have been covered in the first grade. There may thus, be continuing work with consonants (initial sounds, final sounds, other parts of words); with word-perception skills (sight words, auditory perception, context clues, visual discrimination); with structural concepts (endings such as *s*, *'s*, *ed*, *ing*, compound words, contractions omitting one letter).

Such exercises as the following are examples of teaching short vowel sounds:

1. The teacher gives a type word from the children's vocabulary having the short sound of *a*, as in *hat*. The pupils give other words rhyming with *hat*, as *rat*, *cat*, *mat*, *sat*.
2. The teacher writes the words on the board. The children read these. The teacher erases the initial letter and asks what is left. He erases the final letter and asks what is left, and the children give the short sound of *a*. He builds up the words again, asking the children to pronounce as she writes.
3. The following day a chart with the same words printed on it is shown and individual children name the words.
4. The same procedures are followed with other short vowels. There are some exceptions, such as *give*, *have*, and *some*, which are taught as sight words.

In the third grade the teacher will undertake the development of certain new principles, but only when he is satisfied, after thorough review of work presumably covered by teachers of the first and second grades, that his children are *ready* for these more complex principles and their applications. Sometime during the third year the teacher will make certain that his children are able to accomplish the following:

1. Recognize compound words made up of known words.
2. Recognize inflectional variants of known words; possessives; plural nouns formed by adding *s* or *es*; verbs formed by adding *s*, *es*, *d*, *ed*, *ing*, *n*, *en*; forms made by adding *er*, or

est, of comparison, *ly*, and *y*. These include variants formed by dropping final *e*, by changing *y* to *i*, and by doubling the final consonant before adding any of the endings listed above.

3. Recognize contractions of words.
4. Determine syllabic units in words.
5. Make some use of dictionary skills, although in many instances this work will be deferred until fourth grade.

Thus, throughout the primary grades teachers will be assisting children at their individual levels, making sure that they become independent in word attack through the balanced utilization of at least five major aids: (1) meaning or context clues; (2) word-form clues; (3) phonetic analysis; (4) structural analysis; and (5) the dictionary.

THE DEVELOPMENTAL READING PROGRAM: THE MIDDLE GRADES

The Readiness for Reading Program in the Middle Grades

In the fourth, fifth, and sixth grades, teachers have a dual responsibility with respect to reading readiness. Not only must they be proficient in discovering the degree of readiness of each pupil to assimilate the new things which he is to encounter, but they must also be prepared to shore up those prerequisites for basic reading which might not have been developed to the necessary level for effective and efficient functioning. For here, in the middle grades, the demands made upon children are many and diverse and are different from the demands imposed in the primary years. Here the child must more and more read independently, for it is in this period that he is really "on his own in reading." Reading as a *general skill* now differentiates itself into many *specific skills*. How, then, to prepare for and ensure success in these vastly different undertakings?

Some of the questions to be considered by the teacher, con-

cerned with the child's readiness for future reading instruction, are suggested by Bond:

1. Does he have the necessary general reading ability?
2. Is he free from anxiety about oral reading?
3. Has he developed taste for the suggested recreational reading?
4. **How independent is he in his reading?**
5. Is he able to organize the material read for effective retention or for presentation?⁶⁰

During the primary grades teachers have provided materials, including books which have been related to things and events or activities within the child's immediate environment. In short, the children's reading activities have largely been of a personal nature. By the end of the third grade most, but not all, of the pupils will have made reasonable progress in this personal sort of reading and will have learned to use reading in simple study activities. Their vocabularies will have grown enormously and they will have had some experience with word-attack skills which will enable them to unlock unfamiliar words so long as these words are not too remote from their immediate experiences.

In the middle grades the child will have to learn to read materials from science textbooks—for a specific purpose. He will have to learn to read within an arithmetical framework—for a specific purpose. He will have to read from a social studies textbook—once again for a specific purpose. In other sources he will seek information or will read for appreciation. He will be reading for understanding in many and remote fields. Much of his work will be organized for presentation by units. There will be, therefore, a need for readiness for reading a specific story or unit of material and this kind of readiness may be quite different from general reading readiness. As Bond points out:

If the teacher is able to analyze the instructional unit, arouse interest, build necessary background, clarify word concepts, establish purposes well, and estimate specific requirements of reading that must be met, she has made a good start for effective teaching. If, in addition, she is able to anticipate which children are likely to have difficulty because of certain

⁶⁰ Guy L. Bond, "Readiness for Reading in the Middle Grades," *Reading Bulletin* 1:A (Chicago: Lyons & Carnahan, pp. 2-3).

immaturities, and if she is able thereby to establish necessary readinesses, she will have solved much of the problem of teaching reading. The following questions should be considered in determining readiness of children for each unit of instruction:

1. Has interest been aroused?
2. Do the children have the necessary background of understanding to read the material being presented in this unit?
3. Have the purposes been accepted by the children and have the specific reading requirements been well explained to them?⁶¹

The responsibilities of the middle-grade teachers with respect to readiness for reading are not markedly different from those confronting the primary teachers. Each, whatever his level, takes into account mental, physical, social, emotional, and experiential factors. Each factor has different weight for different children, but all are important aspects of the total growth of the child. The middle-grade teacher does not believe that the skills and attitudes established in the primary grades will suffice the child throughout his elementary school career. He believes that *every teacher is a teacher of reading* and that *every teacher* has responsibility for guiding the development of the child in the appropriate readiness area.

The Reading Program in the Middle Grades

The teacher of the middle grades has goals that are necessarily quite different from those of the primary teacher. Although at one time it was generally believed that by the time the child had reached fourth grade he had mastered reading, such a position is now never taken by the teacher at this level. He knows that many children who can do the work of the fourth grade are not actually readers; many are still very much in the early stages of learning how to read. He is quite aware of the fact that many of the activities carried on in the middle grades are directly dependent upon highly developed reading skills.

As he considers readiness factors relevant to fourth grade reading, the teacher is cognizant of the fact that a program for his children

⁶¹ *Ibid.*, pp. 3-5.

must be founded on the development of many skills, for reading at this level can no longer be viewed as one general skill. What kinds of skills must be developed if the child is to make progress in the intermediate grades, and how do these relate to later needs which will certainly be encountered as the pupil moves to the junior and senior high-school levels? One answer is contained in a statement of intermediate reading goals agreed upon by teachers in the Jacksonville (Illinois) Public Schools: "The reading program of the fourth, fifth and sixth grades is designed to help the child become an effective reader in adult life. Many of these skills and appreciations can be developed and strengthened through the content subjects (science, social studies, health, etc.) as well as through the use of basic reading materials."⁶²

In this system it is believed that skill-development is an area that deserves concentrated attention in the middle grades and to this end considerable time and effort goes into vocabulary development. Here the pupils use context clues, find structural and phonetic analysis applications, locate word relationships (different meanings of words—homonyms, antonyms, synonyms), and use the dictionary. They further develop their abilities in comprehension by finding main ideas, finding details, organizing ideas, selecting facts worth remembering, and interpreting ideas and using them in new situations. Here is stressed the use of the dictionary, the table of contents, the index; encyclopedias, maps, globes are much in evidence and in use as pupils are assisted in developing the ability to select suitable resource materials and to satisfy personal interests through proper selection of books. Definite attention paid to thinking critically through emphasis upon ability to recognize differences between fact and opinion; to recognize the completeness of information; to apply the conclusions that have been drawn to everyday situations. Pupils gradually come to recognize the need for different kinds of reading—reading for facts, skimming, reading for one's own enjoyment, reading orally for the enjoyment of others.

In some systems the problems of grouping children have been attacked by having middle-grade teachers conduct classes in reading at a set time each day. For example, there may be three fourth-grade

⁶² *Reading Handbook*, Jacksonville Public Schools, Jacksonville, Illinois, pp. 5-6.

teachers, two fifth-grade teachers, and two sixth-grade teachers. All the pupils in these grades go to different classrooms where teachers present materials from books deemed to be appropriate for various levels of reading ability. A youngster in the fifth grade may be reading at an upper third-grade level. He goes to the classroom where the third-grade teacher is presenting materials and engaging in instruction geared to the needs and interests of those concerned. By such an organizational scheme teachers believe that they may better provide for individual needs. An earnest endeavor is made to keep the groupings flexible, for the nature of the groups organized will vary with the grade level and will differ from school to school at each grade and according to the achievement and needs of pupils. After three years of experimenting with such an arrangement, the teachers of Rockland School, Libertyville, Illinois, report satisfaction with the results obtained. In this system several basal reading series are used and there is no attempt made to compel a teacher to use one series rather than another. They have been selected carefully and the so-called tri-basal approach is believed to possess much merit. Following is a listing of the texts used in the groups organized in this school:⁶³

- GROUP A: This group reads *Friends Far and Near* and *Finding New Neighbors*. This represents the third-grade basic program.
- GROUP B: This group reads *Finding New Neighbors*, *Roads to Everywhere*, and *The Treat Shop*. This represents the last half of third grade, all of fourth grade, and a literature book.
- GROUP C: This group reads *Times and Places*, *Days and Deeds*, and *The Magic Carpet*. This represents all the basic fourth-grade program, the basic fifth-grade program, and a fourth-grade literature book.
- GROUP D: This group reads *Days and Deeds*, *Merry Hearts and Bold*, *Enchanted Isles*, and *Magic Carpet*. This represents all of the basic fifth grade program, a sixth grade readiness book, and two literature books.
- GROUP E: This group reads *Merry Hearts and Bold*, *Bright Peaks*, and *Adventure Land*. This represents a sixth grade readiness book, a sixth grade basic book, and a sixth grade literature book.

⁶³ Rockland's Reading Program in Intermediate Grades. Rockland School, Libertyville, Illinois, 1955, pp. 3-4.

5. *A Grouping for Spelling*

cc

cc

cc

cc

cc

cc

cc

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c c c c T

c c c c

6. *Individual Work by Pupils*

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c c c c c c

c c c c c c

c c c

c c c

c c c c T

The teacher's role changes to meet the needs of the children, and his part in each of the above organizational schemes is as follows:

1. Teacher develops a lesson.
2. Teacher guides committee activities.
3. Teacher helps one group.
4. Teacher and class hear a committee report.
5. Teacher pretests one group while children study in pairs.
6. Teacher helps one child while others work independently.

Other schools fall back on the traditional three-group plan of classroom organization. Thus, all pupils who have successfully completed the work of the third grade and are prepared for basic instruction at the fourth-grade level are organized into a single group. These are thought of as the "normal" group. A second group includes all pupils who have completed the third-grade basic reading but are not yet fully prepared for a venture into the fourth-grade programs of reading. A third group includes those who, although labeled third graders, are really at a second or lower level with respect to the basic skills; these are obviously not yet ready for an introduction to the reading that is carried on by either of the other two groups. The teacher, then, endeavors to work with each of the three groups, utilizing techniques and materials and introducing experiences and activities which he feels are appropriate for the children at their different levels of reading ability. His problems are many and perplexing and he is constantly aware of the need for frequent appraisal and for re-grouping when this is indicated.

Not all problems confronting the teacher can be solved through grouping, of course, but as the perceptive teacher surveys possible

ways for his class to be organized for instructional purposes, he can adapt at least some of those that have been suggested.

Some authorities in the field of reading are beginning to suggest that the only effective way of dealing with wide abilities in one grade is through the use of the individualized reading program.

The Individualized Reading Program

Good teachers have always experimented with programs for teaching reading skills that give the individual child the time and attention he requires if he is to attain the desired effectiveness and efficiency of the mature reader. These teachers have tried to assess the strengths and weaknesses of pupils so that they—and the child—will know more precisely wherein he is succeeding and where he needs to improve. They have tried to encourage children to make their own choices of reading material, and both teachers and children have concentrated their efforts on adequate record-keeping in order to indicate the quantity of material read, the specific skills and abilities worked on, and the identification of developing interests as these unfold. Teachers who have experimented with individualized reading techniques believe that such approaches allow the child to seek that which stimulates him, choose that which helps him develop most, and work at his own rate with what he has chosen.

The administrative climate in which an individualized program operates must be a permissive one. Administrators, supervisors, teachers, as well as parents, must be thoroughly convinced of the general utility of the approach, and careful planning must be the watchword. Programs geared to today's needs cannot be permitted to assume one-sided emphases which distort their true character. There can be no assumption that "book"-dominated programs will suffice; nor can undue reliance be placed on the development of one technique, such as phonics. The book will, and should, have prominent place in the school day, but it cannot be permitted to dominate that day. There will be a place for phonics instruction, but that place will be alongside other equally important techniques for the fostering of word-attack skills. Oral reading, too, will have its important place,

but without an overemphasis that would result in its becoming burdensome. All teachers will perceive themselves as teachers of reading as well as teachers responsible for content areas.

While success in individualizing the teaching of skills and fostering independent reading does call for appropriate procedures and arrangements, these are not enough. Individualizing reading starts not with procedures but with a creative, perceptive teacher—one who believes that children want to learn; who thinks with children rather than for them; who basically respects the individual behavior of every youngster; who works with children in orderly but not rigid ways. Such a teacher sees the individualizing of reading as consistent with the total designing of living with children in the classroom. Individualization of reading, thereby, gears into the larger context for learning, in which, throughout the school day, children are using their reading skills to functional ends:

- To understanding and using ideas
- To acquiring important information
- To solving problems
- To participating in creative activities
- To thinking critically
- To developing viewpoints and ideals
- To evaluating learnings, ways of behaving
- To comprehending culture
- To understanding self and others
- To knowing, being, and becoming.⁶⁵

How, then, does one go about installing an individualized program in a classroom? There is a growing literature which describes intermediate programmatic steps between basal programs with ability grouping and complete individualization. The following is typical of the specific suggestions that are available:

One-group-at-a-time change-over

Begin with the regular reading period with one group while the others are doing some kind of independent work at their seats. Increase the amount of silent reading during the period. Decrease the amount of reading orally. Encourage, or at least do not prevent, children's reading ahead of the rest of the group. As you notice children reading ahead rapidly and still with comprehension, give praise and encouragement, for that is the

⁶⁵ Leland B. Jacobs (and others), *Individualizing Reading Practices*, Practical Suggestions to Teachers Series, No. 14, New York: Teachers College, Columbia University, 1958, p. 17.



In an atmosphere of warmth and self-expression, learning is fun. In the interests of mental and emotional health, the teacher provides opportunity for freedom and creativity—not only in the arts, where tensions and frustrations are released quite naturally, but also in subject matters such as arithmetic and science, where understanding and insight can give great pleasure. (Photo: Oak Park, Illinois, Elementary Schools.)



An individual museum project differs from a field trip to a museum, but both must be carefully planned. An individual project for a talented child, for example, must provide opportunities for creativity and sustained work, and it must offer a quality and type of experience that is not duplicated in the classroom day. The resources of museums and libraries can strengthen a school's program of enrichment. (Photo: Allan Kain; Cincinnati Enquirer.)

desired goal of reading. Save work on skills until the end of the period and then deal only with that which proved to be most difficult. Talk about what was read. As the days pass, encourage various children to come and read a selected part of the story they are reading—the “best” part, the “funniest” part, etc. As the child does this, discuss the story, laugh at it with him, ask him to tell you what happens next or what has preceded. In this way you set up a personalized teaching time, and children recognize your genuine interest in what they are doing.

As the child finishes the basal text (or shows obvious boredom with it), invite him to take another book from the pile that has been accumulating. By the end of a week or ten days, every child will either be in a different book, or will be on a different page in his old book, and you will be in a position to teach each one individually.

Whole-class-at-a-time change-over

Begin with a careful description of what is expected. A bit of role playing might be helpful. Have one child go from his seat to the book table, pick out his book, read a bit, and then come to your private little corner to read to you, and then back to his seat for the rest of the period. Provision can be made for partners to read together if no one else will be disturbed. There is no seat work as such. Instead, children read self-selected books and do related jobs (writing letters to an absent pupil, drawing or illustrating stories, etc.). If you place yourself in a spot where you have some degree of privacy, but can still lean back to whisper words to children who are stuck, you will be in the best position to work. Sometimes a few children are such good readers that they can help another with a difficult word. But these children should not be denied their own reading time for such help, nor should other children feel forced to go to them for help. Teaching relationships and responsibilities between children can be quite unhealthy if not handled carefully.

How It Works

Once your room is arranged, it is a simple matter to get each child settled with a book that is easy and that he likes. You can then retire to your corner and wait for volunteers to come to the chairs at your side. Some teachers put up lists of names for a given day. Other teachers take the volunteers first and watch to see that all eventually come for individual attention.

Usually a teacher can expect to spend approximately three to five minutes with a child. This time does not seem, at first glance, to be very long. But in a traditional grouping of 12 children meeting daily for 20 minutes, children can be heard only two minutes, and then in not as

highly personalized a situation. Further, when one child is reading and the rest are following along with him, their time is being wasted. Children do not learn to read efficiently when following along, word for word, what another child is reading aloud. These are minutes of intense teaching, and even though only one-third or one-half of a class is met every day, no child's time is wasted.⁶⁸

From the foregoing it should be apparent that if we really believe in individual differences in children, we must deal with them individually. An individualized approach in teaching reading is a legitimate goal toward which to strive. It may not be possible to effect complete and immediate transition to such a child-centered program, but ways are being explored and intelligent compromises reached. Keen observers of the reading scene in the elementary school are convinced that individualized reading programs are here to stay, and that ways of implementing them will be found. Experimentation will continue, and it is not unrealistic to predict that within a few years individualized programs will be quite common in our schools.

THE DEVELOPMENTAL READING PROGRAM: THE UPPER GRADES

Far from being static, the wide range of pupil achievement tends to increase markedly from grade to grade and confronts teachers with a very complex task in planning and organizing for instructional purposes. Recently, Wrightstone⁶⁹ has pointed out that in such areas as reading comprehension, vocabulary, mechanics of English composition, and mathematics, these ranges are roughly as follows: At the first grade level, the range of achievement is between 3 and 4 years; at the fourth grade, this range has increased to between 5 and 6 years; at the sixth grade level, it is between 7 and 8 years, while at the secondary school level it can be safely assumed that the range

⁶⁸ Jeannette Veatch, *Individualized Reading: For Success in the Classroom*, *Educational Trend* No. 954 (New York: Arthur C. Giffitt Publications, 1954), p. 5.

⁶⁹ J. Wayne Wrightstone, *Class Organization for Instruction: What Research Says to the Teacher Series*, No. 13 (Washington, D. C.: National Education Association, 1957).

in achievement will be equal to or even wider than at the sixth-grade level.

Although the seventh-grade teacher has every right to expect that reading skills have been taught, and very well taught, in the primary and intermediate grades, he realizes that as children enter his grade they will not all have acquired the same degree of proficiency in any one reading skill, certainly not in the many skills that have been the center of attention at various times. What sufficed and was very acceptable performance by a third-grade child, will simply not do in seventh grade. *The general reading skill of the primary years has differentiated itself into many specific skills by the time the child has reached the upper levels of the elementary school, and knowing this, the teachers at these levels recognize themselves to be reading teachers as well as teachers of content areas.* This does not mean that everyone is to be passed on upward regardless of achievement, but it does mean that more than subject matter must be taught.

Just as primary teachers and intermediate-grades teachers had goals for their respective programs, so do upper-grades teachers recognize the necessity for aims such as the following:

1. Free independent reading of various materials on different levels of difficulty and with ample provision of rather easy materials.
2. Reference reading, learning to use the resources of the library, the encyclopedia, and other authoritative sources.
3. Group reading for discussion and application to group enterprises, as in social studies.
4. Reading for the main idea, for more exact details, for an orderly sequence of events or outlining of the selection, and for using or doing something about the material in a creative way.⁶⁸

Ways of achieving these objectives are many and varied. In some schools a period is set aside daily for the study of reading. Here seventh grade classes are divided into four groups. Three groups use readers published for grades four, five, and six but not previously used by the pupils when they were in those grades. The fourth group engages in library reading. In another school, seventh graders who failed to read acceptably upon entrance to the seventh grade are

⁶⁸ David H. Russell, *Children Learn to Read* (Boston: Ginn & Company, 1949), p. 167.

placed in a reading class for a semester or for the entire year. In these situations, the teacher is a reading specialist.

Many believe, however, that too often instruction by a reading specialist is completely isolated from other activities in which the child participates. It then becomes necessary for each teacher to regard himself as a teacher of skills of reading as well as a teacher of subject matter. The beginning teacher is often overwhelmed by the thought of teaching reading as well as the content of the subject for which he is responsible, but he can be guided by a suggestion made by Fay:

When one thoroughly investigates the role of readiness in reading instruction, he becomes struck with the realization that the teacher's readiness is as significant as that of the students. For the teacher this means essentially three things: first, knowing the capabilities and achievements of one's students; second, knowing what is demanded in reading a particular content; and third, knowing what specific selections will involve in the way of background information and reading skills. When reading a text or a reference, the teacher then is concerned not only with the information or the content it contains but is also interested in such things as the background the author assumes the reader possesses in order to derive understanding from the passage, the vocabulary problems his students might encounter, and the aids to understanding found in the reading material. These and other factors are involved in the problem of teacher readiness.⁶⁶

The concept of every teacher as a teacher of reading has been slow of acceptance. Very frequently the harassed content fields teacher is heard to complain that the day simply is not long enough—that far from finding time to do any additional work such as the teaching of reading he is finding it difficult to do an adequate job of teaching the content subject. This has led to the compilation of very helpful teaching aids, several of which should be readily accessible to the beginning teacher. These include *All Teachers Can Teach Reading*, *We All Teach Reading*, *Improving Reading in*

⁶⁶Leo C. Fay, *Reading in the High School: What Research Says to the Teacher* Series, No. 11, Washington, D. C.: National Education Association, 1950, p. 13.

All Teachers Can Teach Reading, 1951, Yearbook, Plattsfield, New Jersey: New Jersey Secondary School Teachers Association, 1951.

⁶⁷Francis O. Jones, *We All Teach Reading: A Guide to Subject Matter Teachers in Schools and Colleges*, New York: Committee on Diagnostic Reading Tests, Inc., 1954.

the Junior High School,⁷² and *Five Steps to Reading Success in Science, Social Studies, and Mathematics*.⁷³

Take, for example, the section entitled "Developing Reading Readiness for Reading Assignments," which appears in *All Teachers Can Teach Reading*. This is quoted directly as it illustrates pointedly what the beginning teacher of a content subject can do to prepare her pupils generally for a reading assignment.

Developing Reading Readiness for Reading Assignments

The problem of readiness should be the concern of every teacher, regardless of subject, whenever he presents to pupils a reading exercise or assignment. Practically all authorities gauge the readability of material by some or all of these criteria: percentage of "easy" words, proportion of monosyllables, number of personal pronouns, sentence length, number of prepositional phrases, and proportion of simple sentences. Yet even when the passage enjoys a proper readability index, it will probably contain strange vocabulary, new concepts, and comprehension difficulties. The purpose of the reading, too, may be very specific, depending upon the outcomes desired by the instructor.

"Before every assigned reading lesson," one teacher states, "I discuss with the pupils the purpose behind the assignment. The purpose may be to find the answers to specific questions, or to get the author's views on an issue, or to contrast the author's analysis with that of a previously-read writer. Sometimes the purpose is simply to lay the foundation for the next day's lesson, in which case we make very clear what we intend to do then. After the purpose is clearly seen, we decide upon the best reading rate to use, and the types of reading skills that the practice will strengthen. Then we look through the pages of the assignment, and make note of the unusual and new words and expressions that will be encountered. These we have explained, immediately. After a brief period in which questions regarding the clarity of the assignment may be asked, one person summarizes the entire readiness preparation."

Teachers report many techniques and devices to create readiness. Among them are:

⁷² Jane Stewart, Frieda M. Heller and Elsie J. Alberts, *Improving Reading in the Junior High School* (New York: Appleton-Century-Crofts, Inc., 1957).

⁷³ *Five Steps to Reading Success in Science, Social Studies and Mathematics* (New York: Metropolitan School Study Council, 1954).

1. Drawing comparisons and contrasts between life as the pupils have experienced it and life at the time and the place described in the reading material.
2. Preceding the reading with interpretative audio-visual materials.
3. Diagramming situations that will be described in detail in the reading.
4. Telling of experiences that will illustrate concepts that will be encountered.
5. Reviewing difficulties which former pupils have met in the same reading exercise, or which the teacher foresees.
6. The predicting of answers or information that may be found in the reading.

It Seems to Be True That . . .

1. Pupils achieve greater success in their reading assignment when time and effort are devoted to putting them in a state of "readiness."
2. In building the state of readiness teachers are literally giving training in good study habits and skills, and in the selection and use of good reading techniques.
3. There are many tested techniques which teachers can use in creating readiness.

In Your Subject Can You . . .

1. Remember reading assignments that failed to achieve their purpose because pupils were not placed in a state of readiness?
2. Foresee with reasonable accuracy the reading difficulties which pupils will encounter in your assignments?
3. Prepare a lesson in which a high degree of readiness for a reading assignment is built?
4. List a half-dozen techniques that you have found valuable in creating readiness?⁷⁴

One of the most helpful resources available to the beginning teacher is the booklet of the Metropolitan School Study Council called *Five Steps to Reading Success in Science, Social Studies and Mathematics*. This is an introductory manual of sample procedures demonstrating how appropriate reading skills can be taught in the

⁷⁴ "Developing Reading Readiness for Reading Assignments," *All Teachers Can Teach Reading* 1951 Yearbook, pp. 26-27. Plamfield, New Jersey: New Jersey Secondary School Teachers Association, 1951.

classroom simultaneously with teaching particular kinds of subjects. This is especially designed for the use of junior high-school teachers and was the result of a four-year project undertaken by the Reading Group, a subcommittee of the Metropolitan School Study Council's English Committee. This committee developed what it termed a *five step approach*—readiness, concept development, silent reading, discussion, rereading—in the science, social studies, and mathematics areas. To illustrate how the five-step approach may be used in the social studies, the following is presented:

Social Studies

Much of the work done in junior and senior high school social studies (citizenship education) classes depends upon the use of many different kinds of printed materials. To work with these materials successfully, pupils must master certain reading skills, such as the following:

Reading for details.

Finding the main idea and supporting details.

Visualizing through word concepts.

Skimming from class texts or from a variety of materials.

Reading critically.

(For purposes of illustration, only the last skill, reading critically, will be discussed.)

Five-Step Approach in Social Studies

Step One: Readiness.

Arousing pupil interest.

Setting a purpose for the reading.

Developing a background and sense of continuity.

Creating an awareness of the reading required.

Step Two: Concept Development.

Discussion of the vocabulary and concepts which need clarification.

Explanation of how context may give a term meaning.

Study of pronunciation and spelling when appropriate.

Step Three: Silent Reading.

To locate specific skills.

To find the main idea and supporting details.

To see a vivid picture through word concepts.
 To locate information by skimming.
 To determine accuracy of statements.

Step Four: Discussion (oral or written).

To check comprehension.
 To share different points of view.

Step Five: Re-reading (silent or oral).

For clarification.
 For critical examination.

Reading Skill: Reading Critically (to Determine the Accuracy of Material Presented)

STEP ONE: READINESS

In past units pupils have learned the meaning of "understanding" other peoples and have accepted the hypothesis that in this area of "understanding" lies the hope of world peace. Races of the world have been studied, and the class has agreed that the differences among races are essentially insignificant. The meaning of "nation" has been clarified, and the characteristics of geographic, political, and social unity have been discussed. Our own nation has been thought of as a melting pot of racial and linguistic groups. The meaning of "nationalism" has been discussed as a possible stumbling block to international understanding and cooperation for world peace.

STEP TWO: CONCEPT DEVELOPMENT

The pronunciation and meaning of the following terms should be clarified by teacher and pupil discussion before the reading is begun. These words and phrases should always be presented in written context.

traits

class distinctions

socially democratic

patchwork quilt

woven fabric

basic British background

patterns

STEP THREE: SILENT READING

Pupils should read the following selection silently. They should be instructed to keep in mind their background information about the characteristics of nations and nationalism. They should be told that, when reading is completed, they will be expected to criticize the selection as to whether or not it describes a person who actually exists—namely, the "typical" American.

"You know that Americans are not all alike; however, they have enough traits in common so that you can form a picture of them. They usually think they are just as good as anyone else: therefore, they do not list *class distinctions*. They do not consider the government as sacred; therefore, they openly criticize it. They are *socially democratic*; therefore, they speak to people to whom they have not been introduced. They enjoy athletic games; fair play and consideration for their opponents have made them 'good sports' in other activities of life, too. They admire the self-made man and respect people who work with their hands, and so they are not ashamed of workmen's clothes, nor are they too proud to do manual labor. They consider government officials as their servants, not as their masters; in consequence, they dislike people who are overbearing toward their neighbors. Americans no longer form a *patchwork quilt* made up of many foreign customs, but rather they are a *woven fabric* of American materials with a *basic British background* and many smaller *patterns* from the other countries of the world."

STEP FOUR: DISCUSSION

Criticisms might be drawn out by the use of these questions:

Is there such a person as the "typical" American?

Are all of these traits virtuous? Are there other traits you know of?

Are these traits "different from those of other people" and do they therefore "stamp us as Americans"?

STEP FIVE: RE-READING

Pupils might re-read either silently or orally to determine whether or not such a paragraph represents the kind of thinking which leads to international understanding and cooperation.⁷⁵

The developmental reading program in the upper grades of the elementary school has been described in some detail, with a view toward acquainting the beginning teacher with specific measures which may be employed to insure effective and efficient reading as the pupil moves toward mature performance. It has been necessary to emphasize the fact repeatedly that readiness is not the sole concern of the teacher of the very young and immature child. Likewise, it has been deemed necessary to dwell on the point that teachers of content areas have a definite responsibility for the teaching of reading within the framework of a particular course offering or

⁷⁵ "Social Studies," *Five Steps to Reading Success in Science, Social Studies and Mathematics*, op. cit., pp. 8-11.

content area. All too frequently teachers in the middle and upper grades have viewed themselves as specialists—as indeed they are—but, in addition to being specialists, they must be generalists to the extent that they are able to teach those skills necessary for insuring success within the area of their primary responsibility. The program of readiness and reading which has been described at the various levels in the elementary school is designed to assist pupils in opening new vistas for themselves.

As the teacher of the upper grades works along lines indicated, he realizes that he has forged another link in the chain of reading experiences which was launched many years before, and he can take comfort in the realization that others following him, in the high school and at the college level, will continue to view themselves as teachers of content areas, but also as teachers responsible for developing sound and mature reading habits in pupils, whatever their level of advancement. Such a concept is not visionary but realistic, for only if all teachers, whether they be kindergarten, primary, intermediate, upper-grade, high-school, or college teachers, unite in their pursuit of the goals of the developmental program, can they be assured that their pupils will be effective, efficient, mature readers.

Conclusion

Even in this Space Age, when emphasis upon science is becoming increasingly evident, reading occupies a position very high on the priority list of "musts" in the elementary school curriculum. Yet many who have a stake in the reading programs in the schools are unaware of the goals for which these schools are striving. This paradox exists because in many respects the schools have not been particularly effective in fostering the kind of communication that would render many questions superfluous. Schools, and more specifically, teachers, need to assist parents and patrons in hurdling certain obstacles that block the road to clear understanding of what the school is endeavoring to do in its efforts to turn out effective and efficient readers. The role of the parents in a reading program needs to be more sharply defined, and increasing effort must be

made along these lines. Through close cooperation with the home, teachers can bring into sharp focus their own responsibilities, and the responsibilities which can be—and should be—shared with parents. In this manner teachers can guide parents along paths which will lead to the development within the child of self-confidence and satisfaction with reading.

As the teachers of elementary-school children understand and appreciate the readiness concept and make adequate provision for its development, many of the confusions and misunderstandings that have existed will disappear. Since differences within any classroom are tremendous in their range, the demands of the home and school must at all times be paced to the child's developing maturity. Since growth is an on-going process, any program of reading readiness must be the province of more than one teacher. It cannot be the exclusive concern of the kindergarten teacher, or of the primary teacher. It must be seen as what it is, a potent factor in the learning of the child at whatever his grade level, or whatever the content area. It thus falls within the province of every teacher, and its influence must be a factor in his day-to-day planning and work.

If the school is to make the contribution that it can make to the full development of reading ability in its pupils, it is essential that the staff view as one of its primary responsibilities the organizing and administering of a *continuous* program in reading for all the time that the child is in school. There is, of course, no program which will completely satisfy the needs of all schools in all sections of the country, but suggestions have been made which offer promise for the attainment of worthwhile goals. The developmental approach which has been described appears to possess the prerequisites needed for best meeting the needs of today's elementary-school children.

SUGGESTED READINGS

1. Artley, A. Sterl, *Your Child Learns to Read*. Chicago: Scott, Foresman and Company, 1953. A book which gives parents an understanding of the kinds of problems faced in teaching children to read and of the ways in which parents can assist in helping their children become effective readers.

2. Monroe, Marion, *Growing into Reading*. Chicago: Scott, Foresman and Company, 1951. A book which clarifies thinking concerning the nature of reading readiness and the teaching problems involved.
3. Gray, William S., *On Their Own in Reading*. Chicago: Scott, Foresman and Company, 1948. A book which shows how to give children assistance in gaining independence in attacking new words.
4. Burton, William H., *Reading in Child Development*. Indianapolis: Bobbs-Merrill Company, Inc., 1946. A comprehensive treatment of reading instruction in the elementary school.
5. Hunnicutt, C. W., and Iverson, W. J., *Research in the Three R's*. New York: Harper & Brothers, 1958. Reports significant research which has influenced practices in the teaching of reading and other skills in the elementary school.

Teaching the Language Skills

IN BIOLOGY we learn that when two plants or animals are dependent upon each other for life without the union being harmful to either, the relationship between the two is said to be symbiotic. This is the type of relationship that the English language skills have with the fields of science, social studies, literature, art, music, health, safety, and all other content areas.

The language skills of reading, spelling, handwriting, written composition, speech, and listening cannot exist alone, because they have no content. No one except the student of professional education reads about reading, speaks about speaking, writes about writing, or listens about listening. Each of these skills is totally dependent upon the content fields for the materials upon which it can be exercised. And each content field is dependent upon the language skills for both learning and application of knowledge. It is as useless to write, speak, or listen about nothing as it would be to know much—if this were possible without language skills—and be unable to put this knowledge to any use.

Not only is instruction in each of the separate language skills futile, if not impossible, without borrowing content from the content

fields, but instruction in the language skills as a group is equally futile or impossible. The sum of nothing is nothing. The language skills had no content individually, and they have none when combined.

This account of the symbiotic relationship between the language skills and the content fields serves two purposes. First, it serves to emphasize the clear distinction that must be observed between literature and the other language arts. Literature is a content field no more or less dependent upon the language skills for processes than any other content field. And conversely, the language skills are no more or less the handmaidens of literature than of other content fields. So literature must be discussed as a content area, and the skills must be discussed as skills. This chapter will be concerned only with the language skills.

A second purpose of exploring this symbiotic relationship is to establish benchmarks for the organization of instruction in the language arts. It is often advocated that the language skills be taught in connection with their use in a content field on the grounds of efficiency in learning. Problems of transfer of training are minimized. The position taken here is that the separation of skills from content is not only ineffective, it is impossible. Even if the skills are emphasized in the skill subjects and the content learnings are stressed in the content subjects, a test of the functional adequacy of each skill is understanding, the communication of an idea. The idea being understood is invariably a content idea. It follows that skill and content learnings are inseparable.

Thus the real problem is not that of avoiding separation of skills from the content fields in which they must function. The task is, rather, to teach both the skills and the content fields with greater advantage to each—to maximize the symbiotic relationship. The dangers are those common to all curriculum organization and sequence—excessive duplication of effort on the one hand and excessive gaps on the other. Content must be taught while skills are emphasized. Similarly, skills must be taught in the content areas, for directed practice is teaching even if it is not recognized as such.

Whether instruction is departmentalized and involves cooperation between several teachers or whether it is carried on in a self-

contained classroom where the teacher is concerned with keeping her right hand informed of the activities of her left hand, the troublesome part of the problem is much the same. What skills should be taught while content is emphasized and what content should be taught while skills are stressed? How to do each is intimately related and of equal consequence. It is to these questions that this chapter is oriented. Reading, of course, is a language skill, and in the sense that they communicate so are arithmetic, art, and music, but these are treated in other chapters and will not be considered here.

Language Skills

The language skills are related to one another in two ways and each of these ways has implications for teaching. First, they share in common certain principles and facts drawn from the psychology of learning, the fields of child development and mental hygiene, studies of the nature of this society, and considerations of the ethical ideals of a democratic society. These principles and facts offer many guide posts concerning both what to teach and how to teach it. At different times these may be drawn out for direct consideration, referred to obliquely, or assumed as each of the skills is discussed in turn.

A second relationship between the language skills is an expression of the fact that they are all parts of the same whole. Each is a communication skill of the English language arts, and instruction in any one of them is more likely than not to have some effect on the others. English composition involves spelling, handwriting, and grammar as parts. Speaking and listening are two sides of the same coin. There are also well-recognized relationships between facilities with the written and with spoken language, and numerous studies in the field of reading have offered evidence of the relationships of these skills to those in the other language arts.

The interrelationships among the language skills probably reflect certain general language abilities underlying several skills. The tendency to make the most of these relationships by tying the language

skills together for teaching purposes is dangerous only when it neglects the real function of the skills beyond instruction in language. To teach skills for their own sake, even when they are related as a group of language skills, is ostrich-like in its neglect of the content uses. Thus, spelling and handwriting can and should be taught in connection with the other skills of written composition, but an even more important consideration is that all of these skills should be taught as tools for the content area in which they are at the moment being learned and practiced.

The point of view of this chapter and section is that the single most useful clue in the determination of both what to teach and how to teach it in the language arts is the nature of the job to be done. If the job is to write a recipe, the writer puts his directions and ingredients in the simplest and most direct form. Well-understood abbreviations are in order; uniquely beautiful descriptions are not. The content field, and more specifically the job to be done within this field, provide a "work order" for the function of the language skills. And the person who is well educated in the language skills is the person who can use them in whatever way they are required. He has as many language abilities as there are requirements for the use of language.

A final consideration before discussing each of the language skills in turn is the place of drill in a program of language development. The most effective teachers find many opportunities to teach and practice with the language skills at times other than those devoted primarily to the language arts. These teachers are adept at teaching several things at once and in heightening interest in the learnings. While the children are learning about science, they are learning the method of science, and they are also learning to read, write, speak, and listen. Such learnings are not incidental in the sense of being unplanned or unanticipated. On the contrary, they are evidence of good planning and good teaching. This maximizing of simultaneous learnings is an ability that few beginning teachers have developed, for many of the same reasons that a beginning cook can seldom get everything for a big dinner on the table hot, tasty, and on time.

However, the fact that able and experienced teachers find many opportunities to teach language in connection with lessons primarily

devoted to other learnings only lessens the need for drill. It does not replace it. If the language tools are to be efficient, their use must be practiced. The fact that children spend many of their waking hours speaking and listening is a definite aid to the development of these skills, for nothing is more certain than that one cannot learn to speak without speaking or to listen without listening. However, people have been known to continue to practice ineffectual speaking and listening skills throughout life, and a person who talks incessantly may not be effective in a panel discussion or as a member of a group trying to solve a problem. The language skills must be practiced, and the practice must be in effective use.

If there is a crime associated with drill, the crime is not in the drill, but in the meaningless, unmotivated, and purposeless use of it. The best drill is that required by the purposes of the learner. It is no more or less task-centered or job-oriented than is other good instruction in the language skills.

Written Expression

The fact that the written language includes, as parts, several language skills and knowledges (handwriting, spelling, grammar, punctuation), and the further fact that written expression is intimately related to the ability to be creative—to read, speak, and listen—opens wide the possibilities for simultaneous or concomitant learnings. It can be granted at once that improvement can be sought in spelling, handwriting, punctuation, and grammar by writing. Obviously, this assertion does not mean that all that is needed for adequate instruction in each of these skills are many opportunities to write with appropriate attention to these skills in the course of the writing. No, each of them probably needs separate attention in addition to the practice provided by actual writing. There is also little doubt that ability to speak and the background of experience—in both skill and content—that this ability implies are important assets to writing ability. Some of this experience, both with language forms and with content, comes through wide reading and listening.

Recognizing these interrelationships among the language arts

as they bear upon written expression, what does the teacher do about them? How is the teaching done differently from the way it would be if written expression were an independent ability? Let us consider first the effects of instruction in the language skills and abilities that are not necessarily a part of written expression—reading, speaking, listening, and creativity. Essential to all of these is rich content—an experience worth reading about, listening to, speaking about, creating with, or writing about.

The motivation that accompanies interest is an essential prerequisite to the experience or an early result of it. Depending upon the pupil's purpose—and this, of course, may reflect the purposes of the class or the teacher—the experience assumes some language form. It is read about, listened to, spoken about, or written about. At least with speaking and writing, it may take a creative form. (And, just in passing, there probably is reason to define creativity in such a way that reading and listening could be creative.) At any rate, the same experience that meets good standards for content selection also provides the content with which to work to develop the language skills, including written expression. And the factors that motivate the choice of the content itself are frequently those most effective in motivating use of language skills in the study of it, and in reporting the results of the study. Thus it can be stated flatly once again that a weak program of content learnings is likely to be weak in providing opportunities for skill development and that a program with rich units in science and the social studies—with more things to find out about and to communicate than there is possibly time for—is loaded with opportunities for purposeful or functional teaching of written expression.

If all the children do is study textbooks and recite from them, the teachings in written expression will probably follow the same dull, unmotivated, and unrealistic pattern. James Harvey Robinson, a scholar commanding considerable respect, expresses this as follows:

When one has "gone through" a textbook and safely "passed" it, he rarely has any further use for it. This is not because he has really absorbed it and so need not refer to it again. On the contrary, it is associated with a process alien to his deeper and more permanent interests. And it is usually found by those who embark in adult education that textbooks

make almost no appeal to grown-ups, who are free to express their distaste for them.¹

There is also an additive effect to good teaching. Effective programs in the teaching of reading, speech, and listening will help immeasurably in the teaching of written expression. The good reader or listener has had experiences in many content fields. He has extended his vocabulary and knows many forms of expression. The student well trained in speech has even more of a running start toward ability to write. He not only has heard ideas well stated and read well-expressed thoughts, but he has organized and uttered them well himself. The battle is more than half won. All he needs now are the techniques of putting his speech in written form—such skills as handwriting, spelling, capitalization, punctuation, and paragraphing.

Conversely, of course, ability to write effectively provides a similar head start toward abilities with speech, reading, and listening. However, even though these language skills may draw upon the same content for ideas and motivations and even though they undoubtedly supplement each other from an instructional point of view, written expression should not be taught simultaneously with speaking or listening. Speaking and listening belong together functionally. One speaks for his listener and listens for his speaker. Written expression enjoys this same type of relationship with reading. What is written is for the reader and what is read is someone's written expression. Thus the writer must be as unremittingly conscious of his reader as the speaker must be of his listener.

The real key to efficient written instruction lies in the purposes of the writer. What does he want to convey? And then, what is the best way to convey this? This type of analysis does much to help set reasonable standards for writing without killing the desire to write. For some purposes, it is wholly immaterial whether the spelling, punctuation, and grammar are in accordance with accepted usage. This is true of all of the writing a child does for his own use. It is as true of the notes he takes for later use as it is of his creative writing when he is doing it only for fun. He may

¹ James Harvey Robinson, *The Humanizing of Knowledge*. New York: Doubleday Doran & Co., 1924, p. 67.

abbreviate, doodle, draw a picture, use fragmentary sentences, or put it down in any other fashion that will satisfy his purposes. The teacher's only concern with this type of writing is to help him in any way possible to be able to satisfy these purposes. Children might become better students if we offered more help with the abbreviated type of writing used in note taking.

A contention by the purist in English that permissiveness with this type of personal writing develops sloppy habits is altogether unconvincing. For every accomplished author who writes a final first draft, there are ten who begin with rough notes and feel fortunate if the third draft goes to the editor. These people are professionals, not writing for themselves but for others. The same cabinet maker who is renowned for his excellent craftsmanship will slap a few rough boards together as a temporary frame and would call himself an idiot if he fitted, sanded, and polished them. He does what is needed in the easiest and quickest way. And so does the person who uses writing well.

When the writing is done for others, different standards are set. He now has the reader to consider, but even here there is no single standard. What is best is best because it best serves the purpose. The child who writes a letter and includes only one word, "Why?" may have written the best letter possible. When a mother hands her son a slip of paper upon which is written "1 doz. eggs, 2 loaves bread, 2 qts. milk" she has done the job efficiently and well. He knows where to go and what kinds of eggs, bread, and milk to get. There is no need to write more. If a stranger to her buying habits were to do the shopping, her directions would have to be more explicit.

Most writing, of course, is more complicated, but the requirements for it are no less related to the purposes of the writer. Realizing that children are novices at writing, but—even in the second grade—are veterans of at least six years of speaking, we should also realize that the general approach of: "Write it as if you were saying it" is a good one. Still with the inexperience and immaturity of the young writer in mind, we would probably be wise to allow the writing to be done first without much concern for handwriting, spelling, grammar, punctuation, and all the other evidences of good form. The important first consideration is communication of the

idea. Let's get it down. Now we can go back and check it for each element of form.

In a sense, this manner of writing is as cumbersome and time-consuming as is the use of crutches. But these slow and cumbersome methods are discarded in time. If a man has much reason for walking, he will use crutches no longer than necessary. And if a child has much reason for writing, he will want to cut out as many of these checking and rechecking steps as he can. The veteran writer doesn't rewrite to improve his spelling, punctuation, and grammar. He rewrites to better express his ideas. Thus, of course, the child **does too, along with all the rest.**

It might be wise to be much more frank and open about reasons for acceptable forms of expression than is common in schools. Children aren't fooled easily or for long when they ask why and get an evasive answer. "Why ain't 'ain't' right?" "What difference does it make if there are spelling errors in a letter to a good friend?" "My friends don't use good English, why should I use good English when I write to them?" Several discussions of reasons for accepted forms might help much. It would help also to have a clear understanding that errors in first drafts are to be expected. It is the final product, with good and well-expressed ideas, that counts.

A real puzzler for teachers—particularly if they are inexperienced ones—is how to teach all the parts of written expression at once. If the spelling is correct, the ideas, creativity, grammar, and handwriting go awry. If the ideas are good and the material is creative, it is miserably spelled or written, and the grammar is poor. As a further complication, the teacher knows that the best instruction in each of these skills is motivated by real need for writing, and further that actual writing is probably the best practice for each of them. How, then, are all the parts of written expression taught at once?

The answer is that all the skills involved in written expression are not taught at once. They are all practiced simultaneously, whether one wishes this or not, because it is impossible to write without practicing desirable or undesirable forms of each writing skill. But the master teacher does not teach them all at once, and unless the child or group is well advanced in written expression, the teacher does not even encourage high-level performance in all of them at

once. He has seen the ideas—the important part of communication—killed by too constant and too early attention to the details of expression.

At any one writing, the teacher stresses one or two aspects of written expression. He gives constant attention to the content message. This is always the major goal. But at one time, the spelling might also be stressed. At another time, particular care is taken with punctuation. On other occasions, the entire emphasis is upon uniqueness of content and originality of expression—creativity. In social writing they all get taught before the piece is in final form, for we have checked for all of them and have done some rewriting, but in any one lesson the experienced teacher concentrates attention in terms of his immediate purposes while the children are writing for their purposes.

Grammar

In their excellent chapter on “Children’s Experiences with Usage and Functional Grammar,” Nemec and Pooley point out that “grammar” is a much misused term. They then define it as “the systematic study of the structure of the English language,” thus distinguishing it from correctness of usage and conventions.² Having accepted this very useful distinction we can make a strong case for giving little or no attention to grammar in the elementary grades and for placing emphasis upon usage and conventions. The Commission on the English Curriculum of the National Council of Teachers of English makes this point forcefully:

Labeling the parts of speech has proved in one research study after another, both in this country and in Great Britain, to be futile so far as its effect on speech and writing is concerned. Intermediate grade pupils should have practice in the use of language, not in the classification of forms.³

² Lois G. Nemec and Robert C. Pooley, “Children’s Experiences with Usage and Functional Grammar,” Chapter 13 in Virgil E. Hetrick and Leland B. Jacobs (eds.), *Children and the Language Arts*. Englewood Cliffs, New Jersey: Prentice-Hall, 1955, p. 289.

³ National Council of Teachers of English, *Commission on the English Curriculum, Language Arts for Today’s Children*. New York: Appleton Century-Crofts, 1954, p. 235.

Nemec and Pooley, authorities in the fields of both the English language and the teaching of it, express this viewpoint just as succinctly when they write:

It is the thesis of this chapter that, for spoken and written English, the foundations are best laid in the first six grades without formal instruction in the terminology of grammar or practice in identifying and naming the parts of speech or functions of the sentence.⁴ . . . [These conclusions are] derived from observations and research which may be summarized under the following heads:

1. Time spent upon formal grammar in the elementary grades is time taken from the practice of skills in the speaking and writing of English. . . .
2. Formal grammar has very slight influence upon the usage habits of children. . . .
3. Formal grammar has little or no effect upon the skills of composition in the elementary grades. . . .
4. Grammatical terminology, when not associated with specific utility, is easily confused and forgotten. . . .⁵

When a practice is ineffective and, in some instances, harmful, teachers cannot be accused of lowering standards when they abandon it any more than could the medical profession be so accused when they abandoned the general practice of "blood letting." The standards do not reside in the grammar, but in the effective use of speech in thought and communication. Attention is thus directed to the heart of the matter—to the purposes for which pupils write and speak and to the most effective forms for achieving these purposes.

Handwriting

Three question areas of great concern to teachers of handwriting are: (1) How can readiness for written expression be developed? (2) Should manuscript or cursive writing be taught? Should a switch be made from manuscript to cursive and, if so, when? (3) What methods of teaching handwriting are best?"

⁴ *Children and the Language Arts*, op. cit., p. 298.

⁵ *Ibid.*, pp. 298-300.

⁶ Harold G. Shane (ed.), *Research Helps in Teaching the Language Arts*. Washington, D. C.: Association for Supervision and Curriculum Development, 1955, p. 34.

While bringing research and authoritative opinion to bear upon these questions, attention is directed once again to the vital role of the learner's purpose in language instruction. How handwriting is taught should be guided first and foremost by what handwriting is for—by the nature of the job to be done with it. If one bears this in mind, it becomes obvious that one sets different standards for writing to be read only by the writer and for writing to be read by others. His own personal writing can take whatever form he will find most usable when he refers to it again. The writing to be read by others must take the form that will best satisfy social purposes. It is the social form of handwriting that is discussed here.

The general term "readiness" is probably as meaningless without a specific referent as is the Boy Scout motto until one knows what to "be prepared" for. Ready for what? If readiness for school and the kinds of things we do in school is meant, then readiness factors described by Hildreth may provide clues to instruction. She points out that the teacher should consider such factors as mental maturity, social adjustment, emotional adjustment, experiential background, sensory acuity, perceptual maturity, and physical condition.⁷

If readiness for writing (written expression including handwriting) is considered more specifically, the conclusions of Burrows and her co-authors, based upon several years experience in the teaching of effective writing, may be helpful. These authors conclude:

1. That physical immaturity should restrict a child's first handwriting ". . . to those uses for which he sees a need."
2. That ". . . a child's inventiveness and story feeling are fostered by frequent experiences in telling and dictating."
3. That "exposure to fine literature contributes immeasurably to a richer, more adequate expression."
4. That the teacher should "encourage observation, invention, clear vivid expression and honest individual flavor through appreciative comment on attributes of good writing."
5. That ". . . many experiences should be given where the group makes up the message and the class copies it from the board."

⁷ Gertrude Hildreth, *Readiness for School Beginners*. New York: World Book Co., 1952, pp. 12-17.

6. That "abundant experience in oral expression is more important in the development of ability to write than the actual writing itself."⁸

Although the large majority of schools introduce handwriting instruction in grade one and 89 percent of these introduce it with manuscript,⁹ there may be a slight trend toward the delay of beginning instruction until readiness, including interest in the process itself and a felt need for it, is further developed. Teachers generally favor the prevalent practice of beginning handwriting instruction with the manuscript form. Although the research findings are sometimes contradictory, especially in regard to legibility and concomitant effects in spelling, the weight of research evidence is with the current practice. Manuscript is apparently learned more easily and is more beneficial to programs in both reading and written expression.

Present research evidence offers little help with the question of whether to shift from manuscript to cursive writing or with the related question of when, if ever, the shift should be made. The findings of numerous investigators regarding which form of writing is faster without loss of legibility are so contradictory and inconclusive that the best generalization one can make is that one form is about as fast as the other when each is well learned. Also on the research front, several independent investigations find that the change from manuscript to cursive beyond the second grade causes no serious ill effects.¹⁰ Thus it appears that if a shift is made it should take place after grade two. Whether the change should be made at all or in which grade it should be made are still open questions.

With research evidence inadequate and with the very practical problem of which form to teach beyond the primary grades still to be met, it might be attacked by a process of practical judgment. Since the goal of social handwriting (as distinguished from handwriting to meet personal, nonsocial needs) is communication, and since individual differences in handwriting abilities with various forms

⁸ Summarized in *Research Helps in Teaching the Language Arts*, op. cit., p. 56. Original source, Alvina I. Burrows et al., *They All Want to Write*. New York: Prentice-Hall, 1952.

⁹ Ada R. P. Karpfman, "Current Practices in Teaching Handwriting," *Elementary School Journal*, 47: 218-24, 1947.

¹⁰ *Research Helps in Teaching the Language Arts*, op. cit., p. 58.

are recognized, even though they may not be understood, why not encourage children with the form that communicates best for them?

This suggestion involves more than asking children whether they would like to learn another way of writing. It might begin with the most common practice of introducing cursive writing to supplement the already known manuscript sometime during the third grade. For the children who are eager to learn the cursive form and learn it readily, instruction would continue. In practice beyond the time set aside for specific instruction in handwriting, these children might be encouraged to write in either form. Every care should be taken to avoid making handwriting ability a block to the larger goal of effective written expression.

For those who learned manuscript slowly and give every indication of an equally slow pattern with the newly introduced cursive, the new instruction may not be worth the time it is taking and may even be a serious block to continued progress in written expression. The same may be true of those who write reasonably well in manuscript and have little motivation to learn the new form. These children could be taught to write their names in the cursive form and then encouraged to write manuscript for a purpose other than that of learning handwriting while the others are learning the cursive style. With the assumption of some sort of grouping for instruction and the added assumption of an active program requiring much written work, this type of care for individual differences should pose no serious difficulties for the experienced teacher, and no more than careful planning for the beginning teacher.

Although there is some evidence to indicate that the writing instrument even in the primary grades may be as small as the adult-used pencil with no ill effects,¹¹ common practice is to use the large-sized pencils in the first two grades. The practice of using crayons at this level is also fairly widespread. By grades three and four, adult-sized pencils are in common use, and fountain pens are commonly used for writing instruction in grades five and six. The old pen and nib, now seldom found even in public buildings or in the outer offices of banks, is rapidly disappearing from the classroom.

¹¹ Marion F. Wiles, "Effect of Different Sizes of Tools on the Handwriting of Beginners," *Elementary School Journal*, 43:412-14 (March 1943).

Either unruled or inch-ruled paper is commonly used in grades one and two. By grade three, children are expected to have adequate muscular control to be successful with five-eighths-inch lined paper.

Research attention to the actual mechanics of teaching handwriting offers constant and rather conclusive evidence that the best approach is to have the children write rather than trace or practice handwriting motions.¹² Polkinghorne's survey of present practices indicates that about two-thirds of handwriting instruction is carried out with the help of a commercial handwriting system.¹³

An interested observer of the effects of handwriting instruction might find good grounds to question the practicability of a single model of "correct form" for cursive writing. If anyone's writing should be expected to look like a standard model it should be that of an experienced third- or fourth-grade teacher. She learned by this standard model, or by one quite similar to it, when in the elementary school. She learned again with attention to the model in her professional preparation, and she teaches by that model year in and year out. Her own handwriting is usually neat and legible. But it does not look like the model. If legibility is the first goal, and it surely should be, why not provide a dozen samples of good legible handwriting and let the child use any one he wishes? Even in the face of Newland's findings that illegibilities are three and one-half times as prevalent with adults as with elementary school children,¹⁴ there are undoubtedly enough adults who write "a good hand" in any school community to provide the necessary samples.

Still from the viewpoint of an observer, the current de-emphasis of the free forearm movement, and the frank realization that it really does not make much difference if the fingers do some of the job, seems wise. The strange truth that handwriting done on the

¹² Arthur I. Gates and Grace A. Taylor, "The Acquisition of Motor Control in Writing by Young Children," *Teachers College Record*, 24:459-68, November 1923; Oscar F. Hertzberg, *A Comparative Study of Different Methods Used in Teaching Beginners to Write*, Contributions to Education, No. 214, New York: Teachers College, Columbia University, 1926; Iva A. Mercer, "An Experiment in Handwriting in First Grades," *Journal of Educational Research*, 22:361-68, December 1923.

¹³ Polkinghorne, op. cit.

¹⁴ Newland, T. I., "An Analytical Study of the Development of Illegibility in Handwriting from the Lower Grades to Adulthood," *Journal of Educational Research*, 26:249-58 (1932).

blackboard with entire arm movements pivoted at the shoulder is recognizable as the same writing done on paper with a predominance of finger movements, continues to be puzzling. If only muscle learning were involved, it would be exceedingly difficult to account for this coincidence. If a "picture in the head" of what handwriting should look like is guiding the peculiarities of our style, some of us might wonder why we cannot conjure a better picture or why our writing is so unlike our ideal. This becomes even more puzzling when we realize that the people who are dissatisfied with their own handwriting efforts may have excellent hand-eye coordination in other tasks. It would seem that these individuals would be most able to make their efforts conform to the "picture in the head" of good handwriting. Perhaps research answers to these puzzlers will open new and more effective approaches to the teaching of handwriting.

Spelling

The two big problems with respect to the teaching of spelling are what to teach and how to teach it. There is much more evidence upon which to base reliable conclusions regarding the first of these problems than there is about the second, and since the first also has a logical priority, it is a good place to begin.

At the heart of our spelling content—the lists we use—is the assumption that we should teach the most commonly used words first and progress through the lists to those less commonly used, for as long as we teach spelling. Toward this end we have the carefully devised lists of Dolch, Horn, Rinsland, and others.¹⁵ The most commonly used spelling texts are developed from one or more of these lists.

Upon first consideration this assumption seems well founded. If 95 percent of common adult usage in writing is met with the

¹⁵ E. W. Dolch, *Better Spelling*. Champaign, Illinois: Garrard Press, 1942, pp. 257-270. Ernest Horn, *A Basic Writing Vocabulary*, Monographs in Education, First Series, No. 5. Iowa City, Iowa: College of Education, University of Iowa, 1926. Henry D. Rinsland, *A Basic Vocabulary of Elementary School Children*. New York: Macmillan, 1945.

first (most common) 2000 words,¹⁶ it seems altogether reasonable to teach these words rather than those of less general use. There are, however, a number of dangers in a quick acceptance of the notion that the most commonly used words make the best list for teaching. Let us note a few of these and consider them briefly.

1. A criterion of frequency of use never permits instruction to anticipate new needs. It cannot go beyond the present and, due to delays in revising curricula, course of study, and textbooks, it frequently lags behind current needs. The words "jeep," "jet," "atom," "Cinerama," and "satellite" were either nonexistent or in uncommon use until recently. When these enter common usage in a dramatic manner, they are needed in the writing vocabularies of all of us who are concerned with the world of today. They do not find their way into the lists, either because the lists cannot keep up with the times, or because, even as vital as they are to everyday living, they are not encountered as frequently as are words such as "come," "was," "saw," "them," and "there."

2. Frequency of use is a poor indication of need. There is no telling what words might be used frequently if people knew how to spell them. Then, too, the less common words are often what the written account is about. If one is writing about atomic energy, it doesn't matter how often the words "atom," "atomic," or "fission" occur in common adult usage. In this account, these words are at the heart of the message, are frequently used, and must be spelled correctly.

3. The majority of the most frequently used words have no specific content reference. They are the "mortar words" that bind together ideas from most any content field. The fact that these are so generally useful explains the frequency of their occurrence and might be used as a strong reason for teaching them. On the other hand, these words are so common and are used so frequently in varied contexts that the chances are good that they would be learned with little teaching in a program including much writing.

4. It is probably also true that what motivation there is for learning to spell comes from the less common words. If a child wants to write about his work with model planes, he is much more inter-

¹⁶ Dolch, *op. cit.*, p. 17.

ested in learning to spell "aileron" than he is "middle," "wind," or "carry," even though these common words were needed more often than "aileron."

5. Many of the words most urgently needed by any person are more or less peculiar to him or to a group of which he is a member. He needs to be able to spell his own name, the name of his school, the name of the street and city where he lives, the name of his cub scout den and pack, the names of his friends, and many words associated with his hobbies. Hence words common to his needs are uncommon to the larger group and are therefore not in the lists.

6. Surely no claim could be made that each of these dangers of uncritical acceptance of the basic assumptions underlying our word lists is mutually exclusive. Perhaps several of them could be included under this last and probably most critical danger. A person's spelling needs are as extensive as the scope of the ideas he wishes to express in writing. This is almost the same as saying that a person's spelling needs are as broad as his experience, for one cannot know when he will need to write about an experience. If his inability to spell is not to be a handicap to him, he must be able to spell in all the areas in which he has ideas. These include all the content he studies in school, and each new field has words peculiar to it. These include all the concerns related to citizenship and his home and community life and those related to each way that he may earn a living or enjoy his leisure during his lifetime. No general list can meet these needs, and the total of all the words taught in any spelling textbook series can be expected to meet only a small part of any individual's spelling needs. This is true if we think only of the years when he is in school and is even more obviously true if we consider his spelling needs after he leaves school.

Of the above-listed shortcomings of a spelling program based entirely upon "frequency lists," only the third, that suggests that the most common words might be learned with little teaching, argues directly for abandonment of the lists. And even in this instance, there is no clear-cut evidence to indicate that nearly all children would spell the commonest words correctly without instruction. On the contrary, we can recall bright youngsters and avid readers who continue to spell "they" with an "a" in the eighth grade.

It would seem that the faults of the spelling lists be not so much in what they do as in what they do not do:

1. They don't provide for an individual's spelling needs over and beyond the most commonly used words.
2. They don't provide him with a method of learning to spell that he can use to meet his new spelling needs throughout his lifetime.

Without abandoning the spelling lists, and without devoting much, if any, more time to spelling instruction, time could be saved to individualize the lists and to teach a method for spelling. The same facts and reasoning that are used to justify the lists can speak for another measure of "need" beyond the first 2000 most commonly used words. If these words meet 95 percent of common adult usage, they meet the common need. The uncommon need—those tens of thousands of additional words in the English language—are not met with an additional 2000 words based upon frequency of usage. Would it not be better to spend this time and teaching effort in personalizing the lists and in attempting to teach a method that will work for each individual when he meets the many new words that he will need to spell correctly after spelling instruction ends?

To take steps in this direction would not be at all difficult. First, the most common 2000 words from any of the acceptable lists would be assigned to the grades in which spelling is taught. The proportionate burden of these (the relative length of the list) would remain the same as at present for the various grades. Since the usual number of words presented by spelling books is about 4000, only about half the list at each grade level would be taken from the frequency lists. The remaining ones would be more or less unique to the classroom and to the individual student. Words needed in the subjects and units studied in the classroom would provide many of those shared by the class. Also in this category would be the name of the school, teacher, classmates, city, nearby cities, state, nearby states, some of the more common streets, rivers, mountains, industries, and other names in common use by this group. For the individual pupils the lists would contain streets near their homes, their father's title and occupation, names of good

friends, words associated with their favorite hobbies, games, books, radio and TV programs, etc. At least a few of these personalized words should be included in each lesson. Not only do they add zest to rather routine learning, but they are needed in personal writing, and *the educator must never forget that spelling is a servant to writing.*

With the addition of words to meet school and personal needs the total is about 4000 again. Some would criticize this approach on the grounds that the 2000 most common words are so important to all writing that learning these should be concentrated in the lower grades and not be distributed through the elementary years. If there is a junior high-school program there may be good reason to distribute these words only through the first six grades, for it would be unfortunate if the integration between the elementary and junior high-school programs were so loose as to neglect these very common words. It would seem, however, that the claim that these words are needed earlier is no more valid than the contention that reading, arithmetic, or handwriting should begin in the kindergarten or that each of the content fields should be taught earlier.

Actually the personalized and classroom-oriented words to be substituted for some of the most common ones at each grade level are in one sense more sorely needed in actual writing than are those more frequently used. These are the pupil's content words. This is *his* life and these words are what he is writing about. Then, too, he may have learned to spell some of the most common words in connection with earlier writing, which would permit even more attention to the words that tell about what he is doing in school and out.

Since the words learned can only be a small fraction of those needed, it is especially important throughout spelling instruction that each child develop an effective method for learning to spell independently. That individuals differ sharply in every aspect of learning to spell is generally accepted. It is unfortunate that the research in spelling offers so little data concerning the patterns of these differences and the relative effectiveness of different patterns for individuals of varying abilities. Lacking the knowledge and instruments necessary to understand the spelling process and the individual abilities and aptitudes related to this process, we have been unable



"Listen! It's a song we know!" It may be a folk-song or activity record or a poem set to music, but it is appreciated by these children who listen eagerly. What other listening and speaking experiences can an alert teacher suggest to her class? How can audio-visual aids and classroom television contribute to daily lessons? (Photo: Cincinnati Public Schools, Cincinnati, Ohio.)



Often the end-product of a unit combining two or more subjects is valuable. It is not always necessary to keep equipment simple, or to present research reports verbally. These children substituted imagination and ingenuity for ready-made equipment and showed that they understood elements of arithmetic, physics, and music when they demonstrated the properties of pitch and tone. (Photo: Champaign, Illinois, Public Schools.)

to develop methods especially suited to individuals. If this could be done, the accuracy and efficiency of instruction in comparison to present methods would be comparable to the difference between shooting with a rifle and with a shotgun.

Our shotgun approach sprays instruction at nearly every sense avenue in the hope that one or more of the shots will hit. The child is encouraged to look, say, hear, feel, and visualize the word. He does everything but smell and taste it. Individual differences in the effectiveness with which children can use these approaches to learning provide good evidence that this shotgun approach is inefficient. We also have evidence that both "good" and "poor" spellers approach learning to spell in a variety of different ways and that neither of these groups follows closely the approach taught in school.¹⁷

A number of years ago Russell began a type of research into the characteristics of "good" and "poor" spellers that with newer and more refined techniques of measurement may provide bases for individualizing spelling instruction.¹⁸ However, even before this type of research is available, teacher's judgments and the child's own analysis of which ways work best for him provide bases for initiating individualized approaches. The only important consideration here is the teacher's ability and willingness to vary the method and to encourage children to try different methods.

As a beginning step different methods are easily developed by varying the emphasis given to the parts of our shotgun technique. One approach could emphasize visual analysis and visual memory, another could stress auditory presentation, study, and analysis, and still another could stress the kinesthetic approach and maximize the writing aspect. Each of these could lead to other combinations, and the only possible test of accomplishment is satisfied when each child has found an approach that seems to be the most efficient method for him.

Research related to the long-standing controversy between the

¹⁷ C. E. Johnson, *A Comparison of the Spelling Study Behavior of Two Groups of Third Grade Children*. Unpublished doctoral dissertation, University of Illinois, 1952.

¹⁸ David H. Russell, *Characteristics of Good and Poor Spellers*. *Contributions to Education*, No. 727. New York: Teacher's College, Columbia University, 1937.

"study-test" and "test-study" approaches to the spelling lesson is contradictory, but taken as a whole seems to suggest some advantage for the "test-study" approach after the primary grades.¹⁹ There is less evidence to favor one approach over the other in the primary grades and other considerations would seem to give a preference to the "study-test" procedure in the early spelling instruction.

Measurement becomes slightly more of a problem when only a portion of the spelling lists are used. Standardized tests have used the lists as a guide for their content. Thus, even with more emphasis upon learning to spell, which should partially offset lack of familiarity with the words of the test, children who have studied different words would be at a disadvantage with the standardized tests. However, it is simple enough to keep records of the words studied by the entire class and to make a test from these. Norms for the classroom, school, and school system could be developed over a period of years. A supplementary test could be made of the personalized words, with children dictating lists to one another. Under such a plan the information gained from the testing program is likely to be as valuable as that achieved under the program now in effect.

Speaking and Listening

Even though speaking and listening involve different skills, they are understood more readily and are taught more efficiently when combined. These abilities are two sides of the same coin and are related functionally. Basically, both are social skills as distinguished from personal skills. Educational programs need be little concerned with teaching a person to talk to himself or to listen to himself (except perhaps as a means to improvement of his speech).

Furthermore, as social skills, and in keeping with an emphasis on language as a means of getting a job done, speaking and listening are motivated by the same purposes. When the purposes of both the speaker and the listener are met, they are communicating.

¹⁹ James A. Fitzgerald, "Children's Experiences in Spelling," Chapter XI in *Children and the Language Arts*, op. cit., pp. 250-255.

It is then quite reasonable to teach the skills relating to these common purposes simultaneously. Communication, the goal of all the language skills, is at its best when the skills of the speaker are equal to his purposes and when the skills of the listener are equal to the purposes set by the speaker and to his own purposes. Obviously, the purposes of the speaker and listener are not always the same, and if they were, communication could not go beyond understanding to critical evaluation and interpretation of what is said.

Much more attention has been given to the structure of the English language and its "correct forms" than to the purposes of speech and to whether the speech meets the purposes set for it. With no intention of depreciating the social niceties, prestige values, and even communication gains of correct usage, more progress might be made in the improvement of methods of teaching speaking and listening by more attention to the functions of these skills in the lives of children.

As guides to functional teaching of speech and listening, three types of questions need to be raised:

1. What is the child doing? What is the goal as he sees it?
2. What skills does this require of him as a speaker or listener?
3. What communication form does the speaking or listening take? Is it an open forum, panel discussion, interview, or what?

Let us look at each of these questions in turn and see what answers to it imply for the teaching of speaking and listening. What is the child doing? What is the goal as he sees it? Perhaps he and the group are planning a trip or evaluating one already taken. He may be explaining something to the group or giving them directions. He may be telling or reading a story or making an oral report. Again, he may be presenting an argument or point of view in a controversial area or conducting an interview. He may be "just talking" to a friend—indulging in what we call "conversation." These are but a few of the many general purposes he has for speech. Each of these general tasks sets the over-all specifications for the type of speech or listening the situation requires.

Without knowing these general tasks or goals, the teacher cannot know what to teach any more than the contractor can know

what help and materials he will need before he knows whether he is building a school, a barn, or a house. However, once the task is known, the next question is appropriate. What skills does this job require of him as a speaker and of his audience as listeners? What are the job specifications?

If he is explaining something or giving directions, he will need to plan his presentation carefully. Within the time he is allowed, he will want to go slowly over the parts where the listener might be confused. Visual or auditory aids may be helpful. Each step in the sequence should be clearly distinguished from the others. One or more pauses for questions may prevent misunderstandings. If the concepts involved are difficult or complicated, he may need to offer a "bird's-eye view" at the beginning and a summary or review at the end. If the terms are unfamiliar, these must be clarified at the most opportune time for understanding. Depending on the circumstances, he may have to anticipate flagging interest and develop plans to keep his listeners with him. He must feel responsible for making his listener understand precisely, just as the listener must feel responsible for getting the explanation or directions exactly.

Contrast this task of speaking for precise understanding with that of telling a story. No less skill is required to do the job well, *but different skills are needed*. The task now is to entertain. The good story teller knows what his audience likes, and how they like to hear it. When he plans, he has the likes and dislikes of the listener in mind from the choice of the story to the final word. His speed, tempo, and volume are all adjusted to the plot. He is sober or stern when the story requires and he smiles or laughs when the going is funny or gay. If the listener is entertained, the story teller's job is done well.

The idea that speech or listening are general abilities, in the sense that a good speaker always uses speech well or that a good listener always listens well, is a fallacy that probably accounts for more inadequate instruction in the language arts than any other single misconception. A good lecturer is not necessarily a good story teller and neither of these may be effective in an argument. They may all have fine vocabularies. The speech of all of them may be free from grammatical errors. They enunciate clearly. They do not say "and . . . uh." They stand erectly in a comfortable and relaxed

manner. In fact, they have all the commonly mentioned attributes of good speakers. *But they do not meet the varied requirements of speech equally well.* The burden of this position is that the key to good speech or listening is in teaching children to do the different jobs required of speech or listening. This requires first an analysis of the uses of speech and the skills essential to success with these uses. It then requires an "on-the-job" appraisal of the abilities of children to use speech effectively in these ways. And the final step is the meeting of the two—instruction in how to speak effectively in all the ways in which speech is used.

Often the form of communication in use sets the stage for what is effective speech. There are unwritten "rules of the game" for open forums, panel discussions, and interviews. Whether a person is arguing, presenting a point of view, explaining, or telling a story, if he is to be effective he will have to do it within the accepted rules for this form of communication. All that this adds to the purposeful teaching of speaking and listening is a suggestion that speech practice be given in all the commonly used forms of communication. Perhaps a word of warning is in order here. Some of the forms of social discourse we teach in school (debate and declamation, for example) are as outmoded in light of modern social processes as was Benjamin's "Fish Grabbing with the Bare Hands School" in *The Saber-Tooth Curriculum*.²⁰ Most of the debates since the famous ones between Lincoln and Douglas have probably been held in English or speech classes and clubs. Let's practice the forms found useful today and tomorrow instead of those dead or dormant for a century.

The tying of instruction to the individual and social requirements of speech and listening obviously implies that these skills are best motivated and best begun in the context in which they are needed. An active classroom program that includes units in science and the social studies provides a wealth of requirements for speech and listening. There are real needs for the different uses of speech. There are interesting things to talk about and to listen to. There is ample opportunity to build the two kinds of experience background essential to good speaking and listening—experience with the

²⁰ Harold Benjamin, *The Saber Tooth Curriculum*. New York: McGraw-Hill, 1939.

content to make it meaningful and experience with the skills to say it or to listen to it.

The social and emotional setting for speech is often crucial. Most stagefright or shyness in speaking can probably be attributed to inadequate instruction. Talking is not only acceptable and approved in the best curricula for developing speaking and listening abilities, it is sought after. The adages "Silence is golden" and "Children should be seen but not heard" are death to the speech and listening programs. Children learn to speak in all the ways required of them by lots of talking, and they gain confidence as well as ability by many successes with speech.

As faculty groups begin to analyze their curricula to find what speech and listening tasks are there and to find what skills these tasks require, they may need to go one step further and ask what tasks and skills *should* be there. The author once helped an elementary-school staff analyze the listening requirements of children during school time. Two questions were asked: What are they listening for? How much time do they spend with each type of listening? About nine-tenths of the children's listening time (and this time was a larger amount than that spent in the use of any other skill)²¹ was spent in listening in order to understand directions and questions. The faculty's excellent conclusion was that their curriculum was too textbook-oriented to provide opportunities to teach the listening skills that should be taught. Purposes for listening associated with problem-solving rather than drill-memorization methods were largely lacking.

Perhaps the best single opportunity to improve thinking abilities lies in speech instruction. What are you talking about? Does it make sense? From what you said, how do you come to that conclusion? Eight-year-old Lee dashes in the back door and says, "Mother, I just saw a thing that I gotta get. Where's my money?" Mother asks what the thing is and why he has to have it. "Well, it's a thing that zooms up in the air and then goes like this (rapid circular motions with right arm). You know. Everyone's got one." But

²¹ Miriam E. Wilt, "A Study of Teacher's Awareness of Listening as a Factor in Elementary Education," *Journal of Educational Research*, 43 626-636 (April 1950).

Mother doesn't know and she's sure that neither she nor Father has one. Everyone doesn't have one of whatever it is. If he is ever able to tell her what it is, who has one, and why he must have one, he will have taken a small step toward the precise use of language required in adequate thinking. Development of these extremely important abilities to use language precisely without discouraging speech and creative expression is the greatest challenge now facing the master teacher in the elementary-school speech program.

DISCUSSION QUESTIONS

1. How can a teacher of the language arts and a teacher of science in a departmentalized elementary school cooperate in the teaching of language skills and science content?
2. Does the content of literature lend itself to the teaching of language skills? How? What are its shortcomings for this purpose?
3. How does a rich program of content learnings help one to teach the skills of written expression?
4. Why is it that a good writer for one purpose may not be equally good when writing for another purpose?
5. How can a teacher motivate accepted usage in written expression?
6. Are all incorrect usages equally deserving of attention? Are "I seen" and "he come" more crucial errors than misuse of "lie" and "lay"? If so, why?
7. How are capitalization and punctuation taught when the emphasis is upon thought, usage, and convention rather than grammar?
8. What are the advantages of continuing with the manuscript form rather than introducing the cursive form of handwriting? What are the disadvantages?
9. If a shift is made from manuscript to cursive handwriting, how could a teacher minimize the difficulties of this transition?
10. Of the six dangers of uncritical acceptance of the basic assumptions underlying frequency word lists, which is the most serious? Why?
11. What do you think of the author's suggestion of a list of 2000 common words supplemented by 2000 "class" and "individual" words? What are the advantages and disadvantages of such a plan?
12. For what purposes should pupils learn to speak? What school activity would offer training in speaking for each purpose?

13. For what purposes should pupils learn to listen? What school activity would offer training in listening for each purpose?
14. What school activity do you think would offer training in speaking and listening for the greatest number of purposes?

SUGGESTED READINGS

1. Burrows, Alvina T., Ferebee, June D., Jackson, Doris C., and Saunders, Dorothy O., *They All Want to Write*. New York: Prentice-Hall, 1952. The authors draw upon their own experiences to help other teachers develop children's ability to write. Especially challenging are their accounts of the teaching of creative writing.
2. Department of Classroom Teachers and American Educational Research Association, *What Research Says to the Teacher* series. Washington, D. C.: National Educational Association. Bulletin No. 4: Freeman, Frank N., *Teaching Handwriting*, 1954. Bulletin No. 3: Horn, Ernest, *Teaching Spelling*, 1954. These authorities in their respective fields present concise statements of best practices as indicated by research findings. This series now includes more than a dozen titles, but only these two are relevant to this chapter.
3. Herrick, Virgil E., and Jacobs, Leland B. (eds.), *Children and the Language Arts*. Englewood Cliffs, N. J.: Prentice-Hall, 1955. The organization and continuity of this comprehensive book is a tribute to its editors. Each chapter is written by an authority in the field of the language arts. The three parts of the book are concerned with (1) The Role of Language in the Elementary School, (2) Modern Teaching Practices in the Language Arts, and (3) Modern Practices in the Organization of the Language Arts. While the point of view and suggested improvements are excellent, the book is especially useful for its descriptions of the most prevalent practices.
4. National Council of Teachers of English, Commission on the English Curriculum, *Language Arts for Today's Children*. New York: Appleton-Century-Crofts, 1954. The production committee for this excellent and authoritative volume includes many of the most outstanding educators in language arts education. The entire book is concerned with language instruction of elementary-school children. It is rich in examples of approved practices.
5. Shane, Harold G., *Research Helps in Teaching the Language Arts*. Washington, D.C.: Association for Supervision and Curriculum Development, National Education Association, 1955. Actual questions of teachers, and teachers in preparation, determined the scope of this fine booklet. Through this organization research findings are

brought to bear upon questions of most significance to teachers. The treatment is concise, pointed, and impartial.

6. Stockland, Ruth G., *The Language Arts in the Elementary School*. Boston: D. C. Heath and Company, 1951. Language as an aspect of child growth and development is reflected both in the point of view and in the organization of this book. Teachers will find the attention devoted to vocabulary development, recreational reading, and dramatic interpretation especially helpful.

Teaching Foreign Languages

OTHER CHAPTERS in this book are concerned with the methods of teaching some content for which the teacher has been prepared and which he expects to teach. However, most beginning teachers do not expect to teach a foreign language as a part of their school assignments. Nevertheless, foreign-language instruction is becoming a part of the elementary curriculum. It has therefore become necessary for the beginning teacher to be familiar with the merits of such a program, some of the problems a school faces in initiating and conducting it, and the techniques used in meeting these problems.

Today direct communication between peoples speaking different languages is becoming increasingly common. But such communication is possible only when at least one of the two parties concerned is bilingual. As a result of this need parents and educators are taking an interest in having our schools provide training which will help children learn a foreign language. Selected schools in Europe have had extensive foreign language training programs for many years. But since most of our schools do not have selected pupils, we have to consider the problem of teaching foreign languages on a basis different to that found in Europe.

Foreign languages have been taught in our high schools since such schools came into being more than a century ago. At one time nearly 50 percent of the students studied a foreign language. Today about 15 percent of our enrollment do so. In many cases the offering in our high schools is limited to two years of work. Experience has shown that two years is scarcely enough time for a teacher to develop the skills necessary for the efficient use of a foreign language. Hence, such a limited program can achieve only very limited objectives. An increasing number of schools are offering a third and fourth year, but the number of individuals being trained at that higher level is still extremely small.

In recent years a number of elementary schools have begun to introduce foreign-language teaching into their curriculum. In some instances these programs have succeeded so well that they have been expanded. In other instances they have been dropped. But at present there is still a steady increase in the number of schools offering such work. During 1955 over 270,000 pupils were studying a foreign language in one of the first six grades of our public elementary schools. Since that year the number has increased steadily. Yet some of the people familiar with this foreign-language program fear that the basis upon which much of it is built may not be completely sound. Certainly at the present it is difficult for anyone to evaluate the program very objectively. Much of the work being done is still of an experimental nature. Hence, there are variations in offerings and in teaching procedures that are generally not present in other elementary subject fields.

Objectives to be Achieved

An educational program must be built upon predetermined objectives if it is to be evaluated later for the degree of success which it has achieved. This condition certainly applies to the teaching of foreign languages at the elementary school level. A program at that level, for example, may be pointed toward developing skill in the oral-aural use of the language, developing skill in reading, or

even developing skills in writing. Possibly all three may be attempted. Content material will be varied according to where emphasis is to be placed. For example, a teacher would probably select from historical and literary material if he wished to emphasize culture. Or a school may wish only to have its pupils acquire information about some of the similarities or differences between several languages. In that case a comparative study could be made a part of the work in language arts.

The objectives to be achieved in teaching a foreign language should determine the nature of the program which a school wants to offer. However, one basic fact must be kept in mind as such a program is being planned. It takes years to develop an individual's fluency in the use of a foreign language. At the elementary-school level it will usually take more time than at the high school or college level. At the elementary level individuals are less able to concentrate on learning materials for long periods of time.

When planning a program a school must also give consideration to the level of achievement which it expects its pupils to reach. Are they merely to be started on a foreign language which will continue to be taught in high school, or will the elementary school offering be terminal? Furthermore, if the school permits extended gaps to develop in the program, the loss in achievement will usually be considerable. A school must also decide whether foreign language instruction is to be offered to all pupils in a given grade or to a selected group. The decision on this problem should be made only after the school has considered what type of instruction is best for each pupil. Above all, a school should make certain that its objectives in foreign-language instruction can not only be attained at the elementary-school level, but can also be achieved with economy of time and effort on the part of both teachers and pupils.

Pupils who study a foreign language at the elementary school level frequently plan to continue the study of the same language in high school. If this possibility exists, a coordinated program must be planned at both levels of instruction to utilize pupil learning to best advantage.¹ Failure to do so can result in lack of adequate

¹ Gilbert C. Kettkamp, "Coordinated Instruction in Foreign Languages," *Educational Administration and Supervision*, 41, 5, 417 (November 1953).

challenge to the pupil. In some cases it can even cause pupils to become frustrated enough to withdraw from all further foreign-language study. At present this problem of integration is still unsolved in many school systems.

Ability of Elementary-School Pupils to Learn a Foreign Language

There is probably no best age for all individuals to begin to learn a foreign language.² In childhood the advantages are probably greater in developing linguistic flexibility and learning directly the concepts of a second language. The late high school and college years probably represent the period of greatest learning ability in general. The later adult years often find the individual strongest in motivation and in ability to utilize his energies and intellectual power in learning the needed language. But it takes time to develop linguistic ability. Hence, if an individual is planning to learn to speak a language fluently, the elementary grades are not too soon for him to begin. But he must continue to develop this ability even into adulthood or the initial effort will usually be of only limited value to him.

In order to master a foreign language a learner has to be able to understand, to speak, to read, and to write it. A teacher can develop each of these skills to a greater or lesser degree, depending upon where he places the emphasis. Among mature students he will probably try to develop competence in all four skills. Yet because of the limitations of time and the immaturity of elementary-school pupils, he should probably give primary attention to the oral-aural aspect of the work at that level. He can introduce reading and writing in that order after his pupils have developed reasonably good conversational skill.

Since the child learns to speak his native tongue before he

²Nichols, Hahlis. "Child Development and Language Learning," *School and Society*, 78:17-20 (July 25, 1953).

attempts to master the related skills of writing and reading, there is every reason to assume that it is natural for him to learn a second language in a similar manner. He is usually able at an early age to learn to speak a foreign language without evidence of the accent of his native tongue. He becomes less able to do this during adolescence; during adulthood he finds it almost impossible. Of course, the degree to which he can achieve freedom of accent will depend largely upon the degree to which his teacher's speech is free of accent.

Even though he does not consciously understand the construction of the language when he is communicating with others, a young child quickly acquires the ability to use complex forms, such as idioms, with an amazing degree of accuracy. When he wants to communicate with an associate he proceeds to do so. If one means fails him he tries another; eventually he succeeds. In this process he becomes aware sooner or later, that ability to communicate in a second language releases new powers of self-expression. With this awareness usually comes a feeling of personal achievement.

The elementary school child has a keen interest in life beyond his home environment. He is eager to learn about the people, and especially the children, of other lands.³ The songs, stories, legends, dances, and art of those countries usually appeal to him. Though the romantic aspects of life may not always give a realistic picture of life in a foreign country, they will, nevertheless seldom fail to attract the interest of a child. We need only to recall the impact which the stories and pictures of Western cowboy and Indian life made upon us when we were children to realize the attraction which such material has for a youngster.

Almost all languages are rich in folklore. Material of this type not only has a content that appeals to elementary-school children, it has also been written in a form appropriate to their understanding. In contrast, attempts to adapt such material for beginning language classes at the adolescent and adult levels have not always been satisfactory.

³ Though the teacher must be cognizant of the children's ability to understand social concepts, a problem discussed on p. 305 of the next chapter, he also should capitalize on this interest in children of other lands when he teaches them a foreign language.

Selection of Foreign Language to be Offered

The foreign languages commonly offered in American elementary schools are those that are also offered at the high-school level. In most instances they are French, German, and Spanish; occasionally Latin and Italian. At present Spanish appears to have the greatest enrollment, with French and German following in that order. A general language course is sometimes also offered; it actually includes very little language work in any one field and does not develop more than a very limited ability to use any foreign language as a means of communication. Though it may have some merit as an introduction to the study of foreign languages at the junior high-school level, it is of doubtful value in the elementary-school program, if the objective is to develop pupil ability to learn a second language.

Because of a shortage of qualified teachers, a school may not always have the opportunity to select a certain foreign language when it wants to offer instruction in the language field. But assuming that a choice is possible, the language selected should be one that has the greatest social significance for the pupils to whom it will be taught. In most instances this will limit the choice to a language that is spoken throughout widely traveled areas of the world. But there can be exceptions, of course.

The historical background and tradition of a community, as well as its proximity to or communication with people speaking a foreign language, are factors which may influence the selection of the language or languages to be taught. For example, it would be natural for a school in the southwestern part of our country to offer Spanish, but, a school near the northeastern Canadian border or in Louisiana would certainly have reason to offer French. In the Middle West, German and Scandinavian languages would find acceptance in many communities. In some instances it may be desirable to offer a language which once was spoken in a community. Its revival may not only help to bridge the gap that may have developed there between the cultural present and the cultural past, but its revival may also help to keep alive the foreign-language resources of that community. Sometimes a school or community may find

itself tempted to select one language over another because of an imagined "cultural" or "respectability" superiority. It is doubtful that a choice should ever be made on that basis.

English and French are today the two languages most commonly used for communication at international conferences. In addition, French is spoken in some of the West Indies Islands, as well as in French Morocco, Indochina, Madagascar, and other parts of the world. It is the language of about 75 million people. Spanish is the language of Spain, of Spanish Morocco, as well as of most of the countries of Central and South America and of the West Indies. It is spoken by about 120 million people. German is spoken throughout central Europe, parts of the Balkan area, and parts of Africa. In South America it is the language of a considerable number of the people of Brazil. Portuguese is, of course, the most popular language there. German is spoken by over a hundred million people throughout the world.

The English language has a close kinship with many of the other well-known tongues. In form and vocabulary it is largely a Germanic language, although the influences of French and Spanish are everywhere apparent. Of course, the influence of Latin from early Rome can be perceived throughout its vocabulary. Languages such as Russian and Chinese have had little influence on our language, but these languages are spoken today by hundreds of millions of people. The fact that these peoples are making an increasing impact upon international life may be reason enough for us to teach at least some of our young people to speak their languages.

World travel is commonplace today. However, it would be ridiculous to select a foreign language such as German, solely because an individual might someday happen to visit Germany. If such a person should visit Germany, he would also be very likely to visit France. Both French and German would then be helpful to him. An individual today normally does not limit his visit to one country when he goes abroad. A knowledge of French, Spanish, or German would be helpful to a traveler in a majority of the countries throughout the world today. Except for English, there is no one language which can be said to be best for American children to learn. The pupil who develops his ability to use any one of the well-known foreign languages will find frequent opportunity to use

that language, regardless of the part of the world in which he may someday find himself.

Pupils and parents are sometimes under the impression that among the commonly taught foreign languages some are easier to learn than others. In general, this difference is negligible. Pupils learn languages such as French, German, or Spanish with about equal ease. This is particularly true when they are taught to use the language in the same way that they were taught their native tongue. In fact, it is not even unusual for a child to learn to speak several languages with about equal facility. In such instances there is little evidence to indicate that one language has been more difficult to learn than another.

Grade Level at which to Begin Foreign-Language Study

Considerable experimenting is still going on to find out at what grade level it is most desirable to begin teaching a foreign language. Although a child can learn a foreign language at a very young age, Penfield believes that the years from five to ten are especially appropriate for him to learn, to understand, and to speak a foreign language.¹ This view differs somewhat from that of Hobbs, mentioned earlier, that age is pertinent only for certain aspects of language learning.

Throughout the country foreign-language programs have been begun successfully at all grade levels of the elementary school. This situation would seem to indicate that grade level is not a major factor in determining the success of an initial program. Instead, the success which is to be achieved will depend much more upon the continuity of the offering than the point at which it is started. A program which can provide foreign-language training during all years of the elementary school has, of course, much to be said in its favor. However, most school systems do not have an adequate number of teachers with competency in foreign languages to staff such a pro-

¹ Wilder Penfield, "A Consideration of the Neurophysiological Mechanisms of Speech and Some Educational Consequences," *Proceedings of the American Academy of Arts and Sciences*, 82:201-204 (1953).

gram. Hence, the program is generally concentrated at either the middle- or the upper-grade levels. A considerable number of schools favor the middle grades.

In some communities foreign-language instruction has been offered during summer months. The individuals in charge of the instruction were generally high-school teachers interested in directing this type of an activity, or elementary-school teachers with sufficient background in a foreign language to be able to teach it to others. In some instances they may even have been individuals having no connection with the schools. But whatever their background, they probably had some understanding of children and a reasonable ability to speak the language they were teaching.

Considerable community interest can grow up around projects of this type. However, the value of the program will depend largely upon how extensively the initial work can be followed up by further instruction during winter months. It is doubtful whether foreign-language teaching during the summer alone can result in a very fruitful experience for the learner. The long gap between summer learning periods will erase much of the facility gained in language usage during the two- or three-month period of instruction.

Summer foreign-language work can, of course, be continued in private or special classes during the regular school year. This arrangement makes it possible to supplement the work of the summer in a profitable manner. The instruction can be on an individual or a group basis. The group situation is generally preferable because it provides opportunity for more varied oral-aural practice by the learners. The winter months, as well as the summer months, can, of course, be used to initiate language study outside school hours.

Pupil Participation in the Program

In high school, foreign languages are normally offered on an elective basis, and this is true to a lesser degree in the elementary school. At the latter level, an entire grade or a number of pupils selected from one or more grades usually makes up a foreign-language study group.

If ability level is to be a major factor in selecting pupils who

will be permitted to participate in the foreign-language work, then the criteria for making such selection should be carefully considered. Pupils who have been in school and have done well in reading and writing their native tongue are usually good risks. Interest in learning a second language is, of course, basic to wholesome motivation. Yet very young pupils may not always be in a position to indicate such an interest until after they have had an opportunity to begin work in the field. This factor should therefore not be weighted too heavily at first. Background and opportunity to use the language also should be factors to consider in the selection.

Experience has shown that at the elementary-school level slow learners are often able to learn a second language. In fact, such pupils frequently develop considerable enthusiasm for this new experience. Of course, pupils of this calibre should not be forced into a program in which they are unable to achieve reasonable success. But, as Guerra points out, one innovation of the program "... is that the children are making the language live—purposefully, socially, artistically. The lack of social inhibitions and the curiosity and imagination of the child have reversed the problem of the foreign language teacher from persuasion and undue coaxing to participate to the need for restraining the class from participating out of turn."⁵ The extent to which a particular pupil should continue participation over an extended period will naturally have to be decided upon an individual basis. Yet in the beginning or middle grades it is rather common for all the pupils of a grade to study a foreign language rather than for only a select few to do so. However, each school has to decide whether all-class or selected-group instruction will best serve the needs of its pupils.

Integrating Foreign Languages into the School Program

In most elementary schools today there is little if any free time which can be devoted to an additional subject. It is therefore natural to raise the question of how a foreign language can be added

⁵ Manuel H. Guerra, "Future Teachers of FLES," *Modern Language Journal*, 40:8 (January 1956).

to the program of studies without pushing out a subject already being taught. The answer is that no subject has to be pushed out if the foreign language can be integrated with subjects already in the curriculum. In fact, it has been found that this arrangement is often, at middle- and lower-grade levels, a very satisfactory one. Of course, such an approach assumes that the teacher herself is fluent in the use of the languages.

If one teacher is unable to provide dual instruction, a language specialist will have to come into the classroom and take charge of the foreign-language work. Schools vary in the amount of time they allot to such a person, but the average appears to be between 60 and 75 minutes per week. Usually the total is divided up into periods of from 15 to 30 minutes each. The success of the work of a special teacher will depend to a great extent upon how well he and the regular teacher can cooperate and plan their work together. Certainly each should be sympathetic toward the work which the other is attempting to do. They also should try to use common content material as much as possible.

A foreign language is a medium of communication, as is the English language. For this reason it is a means to an end rather than an end in itself. Thus, when integrated with such fields as language arts and social studies it may make classroom experiences more meaningful for the learner. Pupils who have had foreign-language instruction often bring new insights to these studies which they can share with those who have not had the experience.

A foreign language also can be integrated with other subject areas. Fields such as art and music, for example, deal with songs, dances, plays, and visual materials. These fields, as well as others, provide opportunities for the teacher to integrate the cultural life of foreign peoples with the one with which the pupil has personal contact. A German folk song, for example, can be helpful in enriching stories, such as the one about Hansel and Gretel. Certainly such an approach can bring about an understanding and appreciation of aspects of foreign cultures which English words alone are not able to do.

In a subject area such as arithmetic pupils may enjoy learning not only how to count in a foreign language, but also how to carry on some of the simple processes such as addition and subtraction.

A teacher will have to decide for himself, of course, how far he believes he should carry such learning.

With careful planning the teacher can integrate foreign-language instruction with many phases of classroom routine. He can use it in giving simple instructions to his pupils. He can use it to make appropriate explanations. Of course, he should never use it when it will result in confusion or misunderstanding. But he can progress from simple to more complex forms of expression if he moves at a pace which the pupils can follow. Pupils not only expect such development but even look forward to participating in it.

Teaching Techniques at Various Grade Levels

The elementary-school foreign-language teacher should keep in mind that the principles of learning⁶ which apply to children at various age levels are as appropriate in the teaching of a foreign language as they are in other subject areas. Language learning involves the development of skills. Hence, repetition with appropriate correction is basic to such learning.

Objectives and outcomes in foreign-language teaching will sometimes vary between course levels more in degree of achievement than they will in direction. With the exception of the development of reading and writing skills, most of them will apply as soon as pupils begin learning a language.

If the purpose of teaching a foreign language is to develop the pupil's ability to use the language, the following specific objectives will need to be given attention:

- To develop the ability to comprehend the spoken language;
- To develop a readiness to express thoughts and ideas;
- To develop an awareness of language structure sufficient for speech to be orderly and accurate;
- To develop by imitation the ability to use the organs involved in the production of speech correctly;

⁶ These principles are presented in some detail in Chapter 1.

- To develop the ability to read the foreign language orally and silently in an easy and natural manner;
- To develop the ability to communicate in writing.

Teachers will generally emphasize these objectives according to the way in which they best fit into their general plan of teaching.

At the lower-grade levels the teacher must at all times keep in mind that the pupil is dependent upon him for guidance and leadership. The pupil imitates both the sound and inflection of his voice. This can take place, for example, when the pupil sings, repeats rhymes, counts, or takes part in dialogues. The teacher is the primary resource upon whom the child draws for help. Since he cannot read the language, he cannot turn to the printed page when he does not know the answer. He must depend upon the teacher and the more proficient pupils in the classroom for the oral demonstration of sounds.⁷ All of this points up the need for the teacher to be skilled in the use of the foreign language. It is true there have been instances of teachers learning a foreign language together with their pupils by the use of records and tapes. Though some success has been achieved, and this expedient may be better than no foreign language at all, it certainly does place unreasonable demands upon that teacher's time and efforts. Also, one may question whether the time which the pupils spend learning a new language under such circumstances is being used to best advantage.

It is important that the teacher transport the child into a realm of association in which he thinks, feels, and lives the foreign language. The special teacher who comes into the classroom only to instruct in the foreign tongue, can bring this about by using the new language as much as possible while he is there. In this way the children come to associate the language with his presence and use it as a means of communication with him. Although such an association may be somewhat more difficult for the regular teacher to build up, it is vital to success in foreign-language learning.

The teacher should always present materials in such a way that they make both a visual and an auditory impression upon the pupil. In this way the learner comes to identify sound and concept with-

⁷ If the teacher has good records and tapes he may very well use teacher's helpers, as was suggested in Chapter 1.

out translating from a visual word symbol. One procedure to achieve this that the teacher may adopt is to hold up an object or a picture while repeating a complete sentence that identifies the item displayed. He can identify the picture of a cat, for example, by saying in the foreign tongue, "That is a cat." The pupil then repeats the complete statement. In this way all the words build up contextual meanings in the mind of the child. He thinks in terms of an expression rather than in terms of an individual word. When seen or heard alone a word may have little if any meaning for him. For example, in the statement above the word *is* would have little meaning for most beginners. Its initial appearance for the child should therefore be in some definite and meaningful context.

Questions should be asked so as to encourage substantive answers; that is, the teacher should avoid leading into "yes" and "no" answers from the pupil. Instead of asking, "Do you have a red pencil?" he should ask "What kind of pencil do you have?" Furthermore, early in the instruction he should encourage the pupil to answer with complete sentences. Of course, such a practice should not be carried out if it detracts from normal situations or creates stilted responses. Above all, the teacher must keep in mind that patterns of word order are in most instances learned by usage and not by rule.

Voice inflection is very important. It reveals meaning in an expression which words as visual symbols do not always convey. When the teacher changes the statement "That is a cat" to the question "Is that a cat?" he indicates to the pupils by voice inflection much of the change that has taken place in meaning. If the new word applies to an object which the pupil can touch, he will have gained an additional sensory impression by such action. This not only aids in developing accurate comprehension, it also aids in the retention of meaning by strengthening associations.

It is imperative that much of the material which the teacher uses should be familiar to the child in his everyday life. His family, his pets, and his toys are the persons and objects around which his life is centered. The teacher should keep in mind that it is within this area of experience that the child will respond most readily.

There are times when a teacher can correlate his teaching objectives to good advantage. For example, his purpose may be to teach

the child to follow directions in the foreign language, to learn the names of the colors he is to use, the parts of the object that he is to color, and finally the name of the whole object. The child may find this work so interesting that learning will take place without undue effort. The teaching procedure can be quite simple. For example, the teacher can mount pictures of houses and identify parts of the buildings such as the roof, chimney, or door in the foreign language. In an outline sketch provided by the teacher, or even made by the child himself, the child carries out instructions in the foreign language, such as the following: "Paint the roof green," "Now paint the chimney red." The teacher continues in this manner until each child has colored the designated parts. The above procedure demonstrates the necessity of making concepts for children as concrete as possible. By dramatizing an expression the teacher may sometimes be able to convey a meaning which his foreign words alone have failed to do. In most cases this will be a more effective learning experience for the child than being told the equivalent in English.

It may be trite to emphasize the need for the teacher to present both new and old material so that the pupils' attention and interest will be fixed upon the work at hand. But it may be useful to review the several approaches which the foreign-language teacher can use which will help to secure such a result.

Songs and rhymes appeal particularly to children in the lower grades. They not only provide opportunity for rapid memorization, they also provide material which the teacher can use time after time to create a desirable learning atmosphere. At the lower- or intermediate-grade levels the pupils should only hear such material. Reading should be left for later years. In order to present the material the teacher can read the songs or rhymes directly to the children and have them repeat after him, or he can use records or tapes on which the material has been recorded. Recordings by skilled linguists are particularly desirable when the teacher is deficient in his own pronunciation of the language, or has a marked accent.

The teacher also can use the tape recorder for evaluation purposes. Pupils not only enjoy hearing themselves speak or sing, they are often motivated to work diligently to correct or improve their speech patterns when they can recognize their deficiencies.

Whenever he is speaking or reading the teacher should be in a position where every pupil in the classroom can see his face. The success of the pupils' attempts to imitate his speech depends a great deal upon this factor. The movements of his lips, mouth, and facial muscles give the clues which the children should try to follow. In fact, pupils even sometimes begin silently imitating their teacher while he is reading a rhyme or singing a song for the first time.

The teacher should always try to sing rather than to read the words of a song. Pupils generally like to hear a whole song before they begin trying to learn the music and words. However, the learning may have to be by smaller units in which the pupils sing back to the teacher the part he has sung to them.

In most languages there are songs that have melodies with which the pupils are familiar. Such songs, of course, make it possible for the pupils to concentrate on learning the words rather than the melodies and often they will quickly learn to sing such material. It is natural for the pupils to think of the meaning in terms of the words of the English song which they know. If the two songs are similar in meaning, the teacher may need to make little if any clarification, but if they are quite different, it will be necessary to explain the foreign song clearly enough for the pupils to understand its meaning. Songs that permit dramatization provide an opportunity for the teacher to combine sound and action in teaching.

Rhymes and short poems can be taught in much the same manner as songs. Rhymes and tempo are particularly important in such learning. The teacher repeats the words a few times and then the pupils follow in unison as the words are spoken. Usually most of the pupils are able to follow after a few tries. Such rhymes should be repeated daily until every pupil is completely familiar with them and can express them with ease and accuracy. Rhymes that involve counting are usually popular with children and their use is probably one of the best ways to acquaint pupils with simple numbers and to develop mastery of them. Rhymes, like songs, frequently provide opportunity for dramatization.

Every child enjoys playing games. Games involve repetition and repetition is basic in foreign language learning. Games also tend to insure a certain amount of attention from the pupils participating in them. For these reasons games can play an important role in

helping children not only to develop but also to maintain the skills connected with the learning of a foreign language. In order to achieve the maximum benefit from a game, it is necessary that all pupils in the group participate actively, or at least be involved mentally in what is taking place. A game should, of course, be interesting to the pupils, but it must also serve a distinct learning purpose. It should be simple enough for participants to engage in it without undue confusion, and short enough to be finished before they tire of it.

Simple counting games are usually appropriate for beginners. For example, one pupil may choose a number in the foreign language and the other pupils guess until one guesses the correct answer. The telling of time also covers the use of the numbers up to twelve. In fact, there is almost no limit to the variations which a teacher can develop for such drills. Most games that are appropriate for English-speaking groups—for example, *Simon Says*—can be adapted to the foreign-language learning situation with little modification.

Since questioning is an appropriate teaching device in many situations, its use in games should not be overlooked. Often rapid-fire questioning by the teacher can give tempo to a game which might otherwise move slowly and even drag.

Materials such as flags, pictures, books, and articles of clothing can be used by the teacher to create atmosphere for language learning. But these objectives have values far beyond that of creating atmosphere. The teacher can use them to help set up situations for dramatic play, in which boys and girls of all ages enjoy the interaction of communicating with one another. Under such circumstances their expression becomes purposeful to them and, therefore, natural.

Children enjoy playing roles. The teacher can use this characteristic to advantage. For example, the pupil who one day is the mother sending her children off to school may the next day be the sister who wants to stay home and play with her brother. Such changes in dialogue situations are not only natural, they are a part of the pupil's everyday experience and are, therefore, readily understood.

Folk stories provide an excellent framework for dramatic action. Much of the dialogue in these stories can be used without change in form. Pupils are often familiar with the action that is taking

place and so find it easy to move into the conversation appropriate for the moment.

The teacher must keep in mind that the mastery of dialogue parts in a foreign language at the elementary level can seldom be achieved except by rote learning. The children learn the appropriate inflection as they learn the words, and they do this by imitation. In this respect the procedure is often superior to that followed with more advanced pupils who memorize from a printed page and then repeat the words with incorrect inflection, or even without inflection of any kind. As with other parts of his oral-aural instruction, the teacher may find the tape recorder a helpful and economical device in teaching pupils their parts in a play.

In the lower grades the teacher should not introduce the foreign word to the pupil in printed form. The child should hear the word and, if possible, see the object which it denotes, but he should not at this time learn to associate a visual symbol with it. In this way he does not concern himself with spelling forms or diacritical markings. Of course, if a highly competent child is keenly interested in becoming acquainted with such material, the teacher should be guided by good judgment and discretion rather than by an absolute rule.

There is a division of opinion among teachers as to when reading and writing should be introduced into the elementary-school foreign-language program. Some teachers believe that the elementary school should leave all reading and writing instruction in a foreign language to the high-school years. Those who do favor its introduction at the elementary level would generally place it in the upper grades, and in the middle grades only if by that time pupils have already acquired reasonable ability in oral-aural skills. Practices in this respect will probably continue to vary among schools. However, there are a few pertinent aspects of this problem that should be considered by the school planning a foreign-language program.

The practice of leaving all reading and writing until the pupil enters junior or senior high school should be examined carefully. If the child has had only a year or two of training in the new language before he leaves the elementary school, it may be advisable to defer contact with the printed symbol until he enters higher levels of training. This decision may be all the more appropriate if

there have been one or more gaps in the foreign-language training program along the way. If, however, the pupil has several years of continuous training at the elementary level, it is questionable whether reading and writing should be withheld entirely during this period. Without a background in these skills it will be necessary either to set up separate courses in high school to take care of these deficiencies, or to have the pupil begin work with a regular first-year language class. He will have every reason to be dissatisfied with the latter placement. It may even lead to poor study habits on his part. At best, he will wonder why with his background he is no farther along than the pupils who have never spoken a word of the foreign language. Of course, it is ideal when a high-school foreign-language program can be set up to take full advantage of all aspects of the learning experiences in which the elementary pupil has engaged. But until this is done, a pupil should not be made to feel that his foreign-language learning has been wasted by not being recognized when he enters high school.

Experience in schools such as those in San Diego, California, has shown that the development of skills in reading and writing a foreign language can be accepted as normal achievement at even the middle-grade level. Upon being introduced to these skills the pupil follows the same procedures that he did when learning them in English. Reading and writing can be taught together, or writing can follow work in reading. This arrangement should make it possible for the pupil who acquires adequate skill in all phases of foreign-language usage to move into at least an intermediate class in that language at the high-school level.

In the reading activities the teacher can help his pupils broaden their range of thought and experience by using both foreign and English reading material. For example, after a class has read a particular story and become familiar with it, the pupils can use the content for discussion, writing, or play purposes. This also is a good time for the teacher to introduce outside reading in the foreign language. He can encourage pupils to take home easy stories based upon their interests and abilities. A report in class on such material is often the means of creating further interest so that other pupils will want to read a particular selection. Material appropriate for such reading is still limited in amount, but more and more is becoming

ing available as the demand for it increases. But even though the teacher has introduced reading and writing to his pupils, he must continue to emphasize conversation if his pupils are to develop that skill until it becomes functional with them.

The junior high-school or upper-grade level may be a good point at which to evaluate the future needs of the pupils, who by that time have had several years of foreign-language training. Slower pupils, if they so desire, should be permitted to continue language work in classes where the stress is upon conversation and reading about the foreign people and their culture. On the other hand, those whose work is poor, or who have no interest in continuing, should be permitted to discontinue their foreign-language study at this point. The strong individuals should be challenged by being provided with opportunities to participate in a program where oral work is of a more advanced type. Such work might include reports of personal experience or of material read from books. Opportunity to learn more about the structure of the language, as well as some training in writing it, may also be provided.

The skilled teacher knows that he must always adapt his instructional methods to the age and ability level of his pupils. If he follows this practice he will always consider suggestions on procedure in the light of the situation which confronts him. With this in mind, the following suggestions from a bulletin prepared by teachers of German at the University of Wisconsin,^{*} may be of interest and help to the foreign-language instructor who is planning his teaching methods:

1. Avoid artificiality and abstraction. The materials used should always reflect situations which have real meaning for children at the age level in question.
2. In teaching at the elementary level, everything depends on the teacher's skill and careful planning. Each lesson must be worked out in advance with the utmost care, but one must also be prepared to deal with unforeseen emergencies.
3. It has proved not only practical but highly desirable to use the German foreign language exclusively during the entire course of study. We recommend that this principle be firmly adhered to.
4. New material should always be introduced in complete utterances, never as isolated vocabulary words.

^{*} *Grade School German Course Outlines for the First and Fourth Grades*. Madison, Wis.: Bulletin 5 (1954). German Service Bureau, University Extension Division, University of Wisconsin, pp. 1-2.

5. Particularly at the outset, plan the work to achieve maximum participation of all children in the class. Insist on brisk, loud choral responses. At the lower levels, considerable practice will be necessary to achieve this goal. Permit individual responses only when the class is thoroughly prepared for them.
6. Gauge the attention span of your class with care. Try to go on to a new activity even before attention begins to lag.
7. Alternate activities requiring moving about with those performed while sitting still.
8. Exercise your ingenuity to practice already learned materials in a variety of different ways.
9. Resort to prompting as often as necessary. If a mistake is made, simply have the class repeat the correct form and go on. It is futile to attempt theoretical explanations of any sort.
10. Be lavish with praise; forego censure entirely.

The Problem of Staffing

As we have pointed out, the ability to use a foreign language as a natural means of communication can be developed only over an extended period of time. This condition raises a critical problem when it comes to staffing a foreign language program at the elementary-school level. To be qualified to participate in such a program a teacher should have training for the grade level or levels at which he plans to work. This in itself is a broad requirement. But in addition to this he should also have a good command of the foreign tongue which he plans to teach. The number of teachers who meet both of these qualifications is few indeed.

Some individuals who speak a foreign language well do not have the background of training in professional and general education which is desirable for teaching at the elementary level. Others have professional training and possibly even experience at the secondary level. Some who speak the language well have no professional training of any kind. Unqualified as they may be, it may be necessary for a school to draw—at least temporarily—from among these groups to help staff its foreign language program. Most states require that teachers under contract hold valid teaching certificates. However,

with the acute shortage of elementary-school foreign-language teachers that now exists, there has been a tendency to certify on a provisional basis individuals who may be deficient in only minor respects. Of course, such an arrangement should be only temporary. Every school offering an elementary-school foreign-language program should work to employ fully certified teachers as soon as possible. Only through such action will the program acquire professional status.

Of the three groups we have mentioned, teachers prepared for secondary foreign-language teaching may be able to adjust themselves most readily to elementary-school teaching. It will help, of course, if they have had some practical experience in working with younger children. There are in many communities today high-school foreign-language teachers whose load consists of two or three sections of a foreign language and a section or two in another area such as English. It would be presumptuous to suggest that such teachers are wasting their time on their second fields. Yet their skill as foreign-language teachers is not being fully utilized. Certainly they have much to contribute to the elementary-school foreign-language program. For this reason it may be desirable to give them an opportunity to share their language skills between the elementary and secondary schools. They can do this, of course, only if certain conditions exist. In the first place, they must have both an interest in working at the elementary-school level and the ability to do so. Second, the curricula and the locations of the schools have to be favorable to such a division of responsibility. Yet it is easier in many instances for secondary-school teachers to acquire professional experience to qualify themselves for teaching at the elementary level than it is for elementary teachers to learn a foreign language if they do not have some background in that field. Of course, it would be poor economy to drop foreign-language offerings at the high-school level in order to staff elementary school foreign language programs.

A qualified elementary school teacher who is fluent in the use of a foreign language is so valuable an asset to a school that it should use his foreign language talents as fully as possible. To do this the school may assign him to teach pupils from several grade levels within one school or pupils from different schools at the same

grade level. In addition, he may not only do some language teaching himself, but also help other staff members who are working to improve their language facility.

The Training of Elementary-School Foreign-Language Teachers

In a recently completed national survey⁹ it was found that in the curriculums of institutions training teachers at the elementary-school level, students were generally permitted from 15 to 30 hours of elective work. The average was about 20 hours. The committee was of the opinion that if an elementary-school teaching candidate were to apply all of the elective hours in his elementary program to the study of one foreign language, he would get enough training to become fairly competent in the use of the language. His competence would, of course, be even greater if prior to entering college he had had basic training in the language at the high-school level. To be of most value to him this training in the foreign language should include as much oral-aural work as possible. That will be the skill for which he will have the greatest need.

It is possible in some instances for in-service teachers without foreign-language facility to be trained in workshops or in nearby colleges or foreign-language schools. Occasionally a high school may even offer foreign-language classes in night school, where an elementary-school teacher can acquire basic training toward learning a foreign language.

Initiating an Elementary-School Foreign-Language Program

There are various ways to initiate a foreign-language program at the elementary-school level. Frequently, parents and pupils request its introduction. Sometimes an elementary-school teacher with foreign-

⁹ Unpublished report of a committee appointed by the American Association of Teachers of German to study the training of German language teachers at the elementary-school level.

language competencies initiates the movement, or a secondary-school foreign-language teacher offers his services on a part-time basis. School administrators, in some instances, recognize the desirability of such a program and themselves take steps to implement it. A common practice today is for the school people to ascertain community interest and opinion by means of questionnaires.

After the movement is under way it is most important that the community and the school cooperate to insure the success of the program. Lack of support for teachers who teach the special classes will interfere with its success; in fact, it is one way to precipitate failure. The administration must be sympathetic with the movement or it will probably stagnate. Experience has shown, however, that not all parents in a school have to be strongly in favor of such teaching before one or more classes can be started.

It is, of course, of utmost importance that careful planning precede the actual beginning of a foreign-language program at the elementary-school level. Success in the early stages of the program will set the stage for its continuance and eventual spread throughout the school system. It is probably best that the proponents of foreign-language teaching at the elementary-school level not initiate programs until, as Mildenerger¹⁰ points out:

... (1) A majority of the parents concerned approve at least an experimental program; and (2) local school boards and administrators are convinced that necessary preparations have been made. Necessary preparations include: (1) recruitment of an adequate number of interested teachers who have both skill in guiding children and the necessary language qualifications; (2) availability of material appropriate to each age level, and new approaches and a carefully planned syllabus for each grade; and (3) adequate provision for appraisal.

At present the teaching of foreign languages in the elementary school is spreading in a somewhat erratic pattern. In some communities it has gone far beyond the experimental stage and has become a part of the regular program. In others it is being continued until it can be evaluated more thoroughly. In recent years the number of schools dropping the program has been less than the

¹⁰ Kenneth Mildenerger, *Status of Foreign Language Study in American Elementary Schools in 1955*. Washington, D. C.: U. S. Office of Education, Department of Health, Education and Welfare, 1956.

number adopting it. Hence there has been a gradual increase in the number of pupils enrolled. Actually, however, the program at present still lacks the research and evaluation necessary to place it upon a completely stable basis. In spite of this limitation, however, there is an increasing demand for foreign-language instruction at the elementary-school level.

Future development of the program will depend largely upon several factors. Among these is the need for further definition of objectives, so that they can serve as guideposts in the organization of the program. Also, elementary-school offerings in foreign languages must be integrated more fully with the offerings of corresponding languages in high school in order to eliminate gaps and overlapping. Enough qualified teachers must be trained to staff the program so that it can function effectively and without interruption. Yet in spite of these needs, the program appears to be growing in one form or another. The people of our country are apparently becoming more and more aware of the fact that we are living alongside other peoples of the world, and as neighbors we have to find a way to communicate with them. The foreign-language program at the elementary-school level may be one move to find this way. If it is the right one, time alone will tell.

DISCUSSION QUESTIONS

1. What are the major advantages and disadvantages of teaching foreign languages at the elementary-school level?
2. Why does it appear desirable to develop a pupil's oral-aural skill in using a second language before attempts are made to teach him to read and write the language?
3. What factors in the school and community should help determine the selection of the foreign language to be taught?
4. What factors would weigh for and against teaching a foreign language to an entire grade group of pupils rather than to a selected group?
5. What advantages are there to integrating foreign-language instruction with regular class instruction?
6. For what reasons might this practice be more desirable at some grade levels than at others?

7. What psychological principles should be made a basis for foreign-language instruction at the elementary-school level?
8. What types of activities appeal to pupils as they work to develop their new means of communication?
9. From what sources can a school draw in order to staff its foreign-language teaching programs?
10. What precautions should be observed when drawing upon such resources?
11. What factors will contribute to the success of an elementary-school foreign-language teaching program?
12. What practices are likely to result in failure?

SUGGESTED READINGS

Andersson, Theodore, *The Teaching of Foreign Languages in the Elementary School*. Boston, Mass.: D. C. Heath and Company, 1953. This book is a pioneer in the field of elementary foreign-language teaching. Every teacher should read at least the first 66 pages. In addition, the book includes numerous lessons appropriate for teaching French.

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Teaching Social Studies

THE PROBLEMS which the teacher confronts in teaching social studies are sufficiently unique to justify an emphasis in this chapter different from those in chapters written on the other subject areas. For example, instruction in the social studies devotes much less attention to teaching specific skills than does instruction in arithmetic, art, industrial arts, music, physical education, and reading. Though all teaching takes cognizance of the necessity to help children to understand the subject matter and to examine its implications for them, social-studies instruction gives special attention to helping pupils practice democratic principles. Understanding and appreciating our American heritage, our current problems, and our geographical setting are not sufficient by themselves. Our youth must learn how to attack our important social problems, to gather the pertinent data, to make decisions, and to take responsibility for doing something about solving them. For this purpose we reaffirm our confidence in the philosophy of teaching described in Chapter 1; and for teaching with understanding we rely on the ideas presented in one particular section of Chapter 1: "Conditions Which Facilitate Learning."

The controversy over what should be taught and when, and for what purpose it should be taught is more of a problem in social studies than in other fields. It is probably natural that this should

be true, since social studies consists of a conglomerate of several long-established subjects of study, including geography, history, and civics. All these studies had been introduced, under varying names, into the elementary schools of America before the middle of the nineteenth century.

Though we shall give primary attention to the problems described in the previous paragraph, we believe that we must examine the reasons for dissatisfaction with earlier programs, our public's expectations (and the factors within the culture which created these expectations), and the relationships among the subjects which make up the social studies in order to prepare the teacher to carry out the program we recommend.

Dissatisfaction with Earlier Programs

During the first twenty years of the present century, educational theorists voiced increasing dissatisfaction about the separation of the various fields of the social studies in the curriculum programs for young children. Because of these studies' close relationship in content it was considered increasingly desirable that, at least in the early stages, they be pursued as a unified area of study. This conception accorded well with the movement toward correlation of elementary-school subject areas into some kind of core program which would occupy much of the child's energies during a school day.

From the beginning, however, the movement toward integration of the social studies ran into severe criticisms from two groups; first, from those with vested interests in the separate subjects comprised in the new group, and second, from those who had honest doubts whether the new agglomeration would give the children the kind of background, training, and information they would need as responsible citizens and voters in our democracy.

As a result of these disagreements, the field of the social studies has become a battleground, and there seems to be little hope that all the controversies will be settled for some time to come. A chapter devoted to a consideration of the social studies, in a book such as this, must, therefore, either confine itself to an innocuous treatment

of the field, so general that it will be relatively meaningless in practice, or run the risk of serious disagreement on the part of its readers. In the present chapter we are going to take this risk and be relatively specific in our recommendations.

What Should the Social Studies Do?

Lack of agreement on what the social studies are supposed to accomplish is a serious problem, and it is one which has received attention. One of the most pervasive aspects of the curriculum movement in the United States which developed during the second decade of this century was its emphasis on objectives. This led in turn to a series of research studies on the extent to which our school practices were likely to attain the desired objectives. G. M. Wilson's study of adult uses of arithmetic with implications for the elementary-school curriculum is a case in point.¹

But in the agglomeration of the social studies, the statements of aims, purposes, and objectives have usually been so vague and all inclusive, if not actually transcendental, that they have defied close research into their attainment. To be sure, one may through counting procedures ascertain which dates in history or place names in geography are most frequently mentioned in newspapers, periodicals, or books; but such research sheds little light on the ways by which children may be prepared for consideration of the complex problems of our civilization.

It is proposed, therefore, that before we consider methods of teaching the social studies, we consider objectives in teaching them, in the hope that such an inquiry may give us some clues to the subject matter that should be treated in the elementary school. Such clues will, of course, have to be considered in the light of what we know about the maturity of elementary-school children and their ability to comprehend and to use in their thinking the various ideas, information, and conceptions involved.

¹ G. M. Wilson, *Survey of the Social and Business Usage of Arithmetic*. New York, N. Y.: Bureau of Publications, Teachers College, Columbia University, 1911.

For What Kind of Culture Are We Preparing Children?

In any discussion of the aims of social-studies instruction, the basic consideration must be the kind of culture for which our schools are preparing their pupils. So we must think for a few minutes about the position of the United States and the consequent duties which devolve upon its citizens.

Out of the frightful destruction and carnage of two world wars, the United States has emerged as perhaps the most powerful nation in the world, in both agricultural and industrial potentialities. As such, it has felt a deep sense of responsibility to the other nations of the world, from altruistic as well as from selfish motives. Not only have we recognized a duty to help suffering humanity, but we also have realized that a prosperous nation cannot exist in a starving and chaotic world. We have therefore given vastly of our wealth and our technical knowledge to help other nations to get on their feet again and to become self-supporting members of the community of nations.

The nations of the world have accepted our help and recognize the need for its continuance, at any rate for the time being. They also recognize our colossal power, both in resources and in capacity to make war. Many of them fear us very greatly.

But the peoples of the world recognize that our nation is a democracy. They know that in the last analysis the direction of our government is not in the hands of an individual or of a small oligarchical group, but in those of the common people, who elect their leaders and who guide them to a considerable degree by public opinion and by their right to reject these leaders at the next election.

In this situation the burden of responsibility which falls on the shoulders of the public-school teacher of the social studies is a heavy one indeed, and the thoughtful citizens of the nations of the world realize this very clearly. If we may be permitted to imagine that a teacher of the social studies were invited to a meeting of the United Nations General Assembly, and that the members of the Assembly were told to talk to him about his duties, we may conceive of their speaking to him in some such terms as the following:

"We put a large measure of trust in you because we have to. Into your hands is placed the responsibility of molding the thinking of the

oncoming generation of citizens in America and of giving them the information about our problems, and the tools and techniques of continuing to see them clearly, which are indispensable if your people are to understand our peoples. Help your children to see clearly two things: first that it is indeed true that God hath made of one blood all nations of men for to dwell on all the face of the earth, and second that our economic, cultural, and spiritual problems are not the same as yours, but that you cannot understand and help us unless you see these problems clearly and sympathetically. Give your future citizens in your schools this understanding so that you and we, and your children and our children, may live neither in isolation nor in fear, but in brotherly love and mutual helpfulness."

What Does Our Nation Demand of the Social-Studies Teacher?

Thus the responsibilities of the social-studies teacher in attaining the aims of instruction in the field are heavy indeed with respect to our nation's position in world affairs. But the statement above describes only one of his responsibilities. There are those which he owes to his pupils with respect to the affairs of his own nation. The American citizen today is not only perforce a world citizen; he is also a citizen of the United States. And the problems of our own country are by no means easy or solved; on the contrary, they still remain, extraordinarily difficult and complex. We have wasted our natural resources—in land, in forests, in minerals, and in water—to a shocking degree, and unless we heed the voices of those who are crying out for conservation, our children may rise up to call us cursed instead of blessed. After more than a century of struggle and experimentation in the field of labor and capital relations in a vastly expanding industrial civilization, we have by no means solved the problems inherent in this field and still have to face struggles to attain a situation of complete equity and justice in this crucial area of our national life.

At the close of the War Between the States, many people blandly thought that the problem of the relations between the rights of the states and of the federal government had been settled; we have been discovering ever since that this will continue to be a very difficult and serious question for many years.

Some of our forefathers introduced into our national life the

iniquitous practice of human slavery; we paid some penance for this sin when our country was torn by fratricidal strife almost a hundred years ago. Many thought at the time that the outcome of the war, through victory of the antislavery side and consequent legislation based upon the victory, had solved the question. How wrong they were has been made especially manifest in the last few years, particularly since certain decisions of our Supreme Court have sought to enforce some of the idealistic theories which have been part of our Constitution for more than three-quarters of a century.

There probably has never been a time in our country's history when we have not faced problems of squalor and juvenile delinquency. But today, with the growth of huge cities and the discovery of new drugs—beneficent in many cases if rightly used, but utterly deleterious if wrongly used—these problems have become especially acute.

None of the above problems can be solved in the United States by a dictator or a Gestapo; we are a democracy and we have to find our solutions through group thinking in the halls of our legislative bodies, resulting in laws which have the acceptance of the great mass of our voters and which are honestly and impartially administered by our police and our courts. And both these latter groups, it must be remembered, are the servants, not the masters, of the ordinary citizens.

In the hands, then, of the school teacher is placed the responsibility, not only of training world citizens, but also of training citizens of our own nation who are informed, thoughtful, and intelligent enough to grasp our own problems, to elect wise representatives who will devise and enact laws adequate to cope with our difficulties, and to sustain through public opinion sound ways of solving our dilemmas.

It is, of course, true that the teacher is only one of many forces that mold the thinking of our future citizens. The church, the newspaper or magazine, the movies and television, and most of all, the home—all share the responsibility. But the schools and, consequently, the school teachers, have unique positions. They have a freedom which several of the agencies mentioned above do not have. They have no editorial policy dictated by a central governing power; they have no pay roll to meet out of profits. Their sole

responsibility is to the principles and ideals of democracy; to train future citizens in its ways and to give pupils the information which will help them to reach an intelligent understanding of the problems which our nation must solve, both at home and abroad.

Social-Studies Aims in the Past

The responsibility we have described is, indeed, a very heavy one. A hundred years ago the duty of the schools was thought of by most theorists in a very different light. The aims of geography and history instruction of that day were considered largely in terms of the acquisition by school pupils of vast stores of facts, usually if not always unrelated to meanings. The mind was thought of as a storehouse; during his school days a child was supposed to fill this storehouse with facts and information which he could use as an adult while thinking out the answers to problems. As stated by a famous psychologist of almost a half century ago, "Just as about the only duty of the young child is implicit obedience, so the chief mental training from about eight to twelve is arbitrary memorization, drill, habituation, with only limited appeal to understanding."²

No psychologist or student of child development today would accept this point of view. Nor would any theorist in the field of the social studies. Rather than a half century, they would go back more than twenty centuries to find a statement of the purpose of teaching and learning the social studies. "Wisdom is the principal thing; therefore get wisdom: and with all thy getting, get understanding."³

There will probably be little disagreement among educational theorists about the validity of the aims for the social studies which we have discussed. But there is a third area of aims for the field about which there is at present some controversy. There are two points of disagreement in this area.

The Social Studies as Socializing Influences

The duty of the school is to socialize its pupils: to prepare them to live happily and healthily with their fellow human beings.

² G. Stanley Hall, *Adolescence*. New York, N. Y.: Appleton & Company, 1916, Vol. II, p. 451.

³ Proverbs 4:7.

This duty of the school is seen as so important by some educators that they wish to change the name of the field from *Social Studies* to *Social Education*.⁴

That the school does owe a duty to children to develop in them the ability to live happily with each other no modern theory of education would deny. But we are strongly of the opinion that this duty pervades throughout the whole day in every aspect of the curriculum and of the activities of the pupils. Learning arithmetic, literature, music, art, and every other kind of activity ought to be so arranged that they contribute to the growth of children. Therefore the movement toward changing the name of the area from *Social Studies* to *Social Education* tends to deny that this field has a unique content—and an enormously important content—in our present troubled world. The change in name would seem to indicate a return to some of the "child-centered school" beliefs of the twenties, when many people thought that all we needed to do in school was to have children live richly and happily from day to day with little regard for the responsibilities of adulthood. Surely a devastating depression and a second bloody world war, together with many years since of uneasy peace, have shown the fallacy of this point of view.

The second point of controversy with respect to this duty of the school to socialize its pupils lies in the contention of some students of education that we socialize them too much, that we tend to emphasize so constantly that children should be members of a group that we stamp out or suppress individuality and creativity. There is, in our opinion, a real danger here. But it would seem that when anyone contends that we must either make children members of a group or else develop them as individuals, he has created another of the false dichotomies that have been the curse of educational theory from time immemorial. People do have to live with their fellow men, and for their own happiness they ought to learn how to do it well. But there is probably a real danger, against which

⁴ See Henry J. Otto, *Social Studies in Elementary Schools* (New York, N. Y.: Rinehart and Company, Inc., 1956).

See Carrie B. Dawson, *Art Education at the Elementary Level and the Improvement of Negro-White Relations*. Unpublished doctoral dissertation, Library of University of Illinois, 1957.

creativity must be wanted. If looking to pupils for great a number of behavior and thereby of supporting the creative and constructive tendencies in some pupils which may later result in really great contributions to mankind.

In what has been said above there is no desire to minimize the great contribution that the social studies can make in the task of educating children. Such commonly used learning activities as group discussion, dramatization, cooperative art and music expression, and construction enterprises, are not only sound methods of covering content, but they are also fruitful methods of helping children to learn how to get along together.

In summing up the aims of the social studies, then, we find that upon the teacher rests the heavy burdens, first of preparing children for democratic participation in the leadership of our nation in a sick world, second of getting them ready to understand and help to solve the pressing problems of our own nation, and third, of helping them to grow into happy, cooperative, and self-directed individuals. A heavy task indeed!

Social Studies in the Primary Grades

A thoughtful consideration of the very broad and inclusive aims of the social studies will indicate why the field is at present so filled with controversy about curriculum sequence and content. Not only do the social studies have a tremendous range of content, they have also to take into account the gradual maturation of pupils and to consider what content is best suited to each stage of this maturation. It is, therefore, not surprising that at the present time there is little agreement among theorists about elementary school content or grade placement. The heartening aspect of the situation is that in our schools we are dissatisfied with what has been done in the past and are engaged in a large number of experimental approaches to the problem. Perhaps some of these experimental approaches will solve some of our problems.

What is the present situation in the schools of the United States? Although there is tremendous variety of curricula, we can, perhaps, distinguish three main general patterns.

Varying Curriculum Patterns

First, in a large number of schools there is still little done with the social studies in the first three grades. These grades are largely devoted to the rudiments of reading, writing, and arithmetic. Then in the fourth grade geography and history are introduced as separate subjects of study. They are pursued as parallel subjects throughout grades four to six, with textbooks in each subject. Schools with this kind of curriculum are usually among the more backward educational institutions of the country.

Second, there are school systems which have followed the recommendations of some of the theorists of the period after the first world war, notably Professor Harold Rugg, and have discarded completely all preconceptions derived from the names "geography" and "history." Instead they have asked the question, "What do children need to learn about their social world, regardless of the category into which this knowledge falls?" Several series of textbooks have been written with this question as the guiding principle. But the fact remains that the authors of such books do not agree at all on the topics that children should study. The philosophy of the movement may be sound, but we need far more information and experimentation before we can hope to equal the agreement on topics and sequence that as we are attaining in the field for example, of arithmetic.

Third, there is a group which, in our opinion, is far more realistic than the second one, and it is our intention to discuss its recommendations in detail.

This group recognizes the desirability of starting instruction in the social studies in the first grade, and it finds greater agreement among school systems on the content desirable for the primary grades than for any other section of the school. The child who enters the first grade has already had many experiences with the world and society around him. He has lived in a home and is aware of some of the duties and privileges which go with home member

ship. Indeed, he may have helped his mother or father in some home chores. He is aware of the fact that there is some difference between the responsibilities of his mother and father in keeping the home going.

Moreover, he has been with his mother to the grocery store and bakery; he has probably seen policemen and firemen at work; he has watched trucks deliver goods to stores; he has watched the mailman deliver letters; he may have taken a trip by train and seen the baggage men handle incoming and outgoing freight; and he has probably heard his mother and father discuss whom they are going to vote for in some local elections.

But these experiences have been haphazard and unorganized; moreover, except in rather unusual households, the adults in his family have made little or no attempt to talk such experiences over with him and give him an understanding of their significance.

Before entering school the child has had experience not only with the social world around him but also with the physical world. He has experienced weather and seasons; he has seen plants grow and die; he has seen animals and bugs and birds. Again, such experiences have probably been haphazard, unorganized, and often practically meaningless.

The task of the social studies in the primary grades is to make the world around the child reasonable and meaningful. It is to make the pupil intelligently interested in, and intelligently curious about, his environment, both physical and social. And the basic aim of the teacher should be to let him see that we live in an orderly world. The world of physical things is orderly because of the existence of natural scientific laws which we can discover and use to our advantage. The social world is orderly because man has set up organizations and rules of conduct to help people get along together and lead full and happy lives.

Many first grades, therefore start with the child's most intimate realm of experience, the home. The division of labor and responsibility, the need for cooperation, and the duties of the various members of a good home are discussed. The teacher will probably also discuss the child's school as a kind of home. In many schools, the contribution of domestic animals to the happiness and welfare of their owners' home and families is discussed.

Natural Science Interests in Primary Grades

While these ideas are being studied, the classroom ought also to stimulate interest in natural science. In any classroom in which living children spend several hours each day there should be living things, both animal and plant, for them to see, study, and care for. There may be an aquarium, a terrarium, an ant nest, an observation bee hive, or a canary or parakeet. Some teachers manage to bring a sitting hen into their classrooms in the spring and give the children the thrilling experience of watching the eggs hatch. One teacher brought to her pupils a pregnant white rabbit doe and the children made friends with the little rabbits after they were born.

All these experiences are not only fascinating to children in and of themselves, but also informative about the operation of natural laws. And the study of these laws blends with the study of social relationships when children learn the necessity of caring for these living things as part of their responsibilities in their school home.

In the second grade, many schools extend the experience of the children into the community. A very common subject of study is "Community Helpers." To do this adequately requires a number of excursions to various places and agencies in the community. Some of these are: the Post Office, the Fire Department, the local creamery, the railroad station, the bakery, the City Hall, and the airport. One class of first graders who lived on a railroad line took a short trip by train after being shown round the station. Several of the large airlines make special arrangements for excursions by school children.

The purpose of all these trips is to give children a concept of the modern community as a highly interdependent organization. In some school systems the teachers try to increase this understanding by having a unit on a primitive community, where such interdependence tends to exist in only two areas, warfare and tribal worship. The American Indian and the Eskimo have frequently been studied. Of late a good deal of ridicule has been directed against these units. Some of this criticism has been because such studies have too often been confined to the unfamiliar and picturesque features of the lives of these peoples; the result has been that the units cannot be shown to have much worthwhile content and meaning in the development

of children's social understandings. Undoubtedly there has been much truth in these criticisms. It would seem entirely possible that if a primitive community were treated from the standpoint of its contrast with a modern, interdependent community, instead of in terms of picturesque myth, new insights would be gained by the pupils. It would seem that in this situation the old Latin proverb, "Abusus non tollit usum"; may be applicable.⁶ (Incidentally, this proverb is appropriate to many educational arguments.)

In the third grade, wide divergencies are found in courses of study. Some common units deal with man's most fundamental needs of food, clothing, and shelter; others with transportation; others with the history of the local community; others with home geography. Still others combine local history and home geography by continuing the work of the second grade on community helpers.

In some schools a study of children in different parts of the world and in various environments is introduced in the third grade.⁷ We are unalterably opposed to such studies. We believe that the geographic and historical concepts necessary to understand either child or adult life in sections of the the world which differ widely from the United States are much too complicated to be grasped by third-grade children. The result is that teachers, recognizing this, tend to put their emphasis on the spectacular, the picturesque, and the bizarre, and children get highly erroneous ideas about people of other lands. Several years ago, a Dutch geographer, after visiting many American schools, remarked, "I do not understand why your school children seem to think that all of my people wear wooden shoes and raise tulips!" The conception that tulip raising is a geographical adaptation to a situation of dense population and small amount of cultivable land, so that each square foot of ground must produce as great a financial return as possible, must be a very difficult one for young children.

While the studies we have discussed grade by grade are proceeding, there should be many units in the primary grades dealing with the world of nature. Whether such units should be called

⁶ "The abuse of anything does not abrogate the lawful use thereof."

⁷ If introduced a year or two later, however, when children are mature enough to understand some cultural differences, the teacher can capitalize on the child's interest in children of other lands, as was suggested in Chapter 9, "Teaching Foreign Languages."

Social Studies is a point not worth extensive discussion. The question is not what they should be labeled but whether the maturing child needs them. In defense of their inclusion in this chapter on the social studies, it can be pointed out that human institutions, activities, and customs never exist in a natural-science vacuum; they are always greatly affected by such things as soil, climate, plants, animals, and their patterns of use.

The character of such natural-science units and the method of conducting them are discussed in another chapter of this book. Here we wish only to re-emphasize two points: first, that a classroom in which living and growing children are housed for several hours each day should be a classroom in which there are many living and growing things; second, that the teacher should seize every opportunity to show the effects upon human and social life of the facts about the natural environment that the children have been learning.

A final word should be said about the social studies activities in the primary grades. In this chapter we have discussed them in terms of common grade placements. But the pattern we have indicated is by no means universal, nor does it have any proved validity. In reviewing what has been written the reader should understand that the topics we have indicated for the first three grades represent fairly common practice, but that the particular grade placement varies widely and that we must have far more experimental evidence before any one pattern can be successfully defended.

In summary, then, the aim of social studies in the primary grades is to cultivate in children a lively interest in their environment; to help them to understand that it is not an utterly confusing thing but that in general it makes sense; and to give some methods by which they can learn to study their environment and find out what that sense is.

Social Studies in the Upper Grades

As we have said, the patterns of selection of material in the social studies in American schools vary widely in grades four through six. It has, however, been generally agreed that the subject matter

should deal in some ways with the traditional content of geography and history, and it seems desirable, therefore, to examine these two traditional subjects in some detail in order to determine whether they should be completely abandoned—as they have been in many schools—or whether there are some aspects of their content that are worth saving.

An examination of any regional culture will show that it may be likened to a creature walking on two legs. One leg is the pattern of geographical factors as they operate upon human activities; the other leg is the background of historical events that have helped to form present modes of thinking and human enterprises.

Let us consider an illustration of this statement by taking a region of our own country, New England, for brief study.

The New England Cultural Pattern

Let us look first at the pattern of geographical factors:

1. New England lies in the middle latitudes and on the lee side of a great continent. It will therefore have marked seasons, with colder winters than if it lay on the windward side of a land mass.
2. The coast line of New England is gradually sinking; therefore it fronts on a broad continental shelf below the surface of the ocean.
3. Lying in the region of cyclonic storms and on the seacoast, the New England states have a good rainfall, fairly evenly distributed throughout the year.
4. The surface of New England consists of a very old, worn down or eroded mountain range. The results of this factor are:
 - a. The mountains that are left are low in height and since there is good rainfall, are beautifully wooded.
 - b. Because of the adequate rainfall, there are many rivers, which through the ages have established broad valleys.
 - c. There is much hilly, stony land, on which, again because of the rainfall and cool climate, grass grows abundantly.
 - d. There are few wide plains.

5. Because of the sinking coast line, there are many good harbors, and the seashore is deeply indented and particularly beautiful.

Before asking what kind of activities people might undertake in such an area, let us look for a minute at some of the historical facts. We may consider the following:

1. New England is part of a continent that was almost empty when it was first settled by immigrants from Europe.
2. Most of the first immigrants were intelligent, thrifty Europeans who were well trained in the arts and crafts of the old country.
3. Since New England was settled early in the history of the white man's occupation of the new world, its cities and settlements had an early start in population growth over many other sections.
4. Since many of the first settlers in New England came to this country to find religious freedom and new personal opportunities, the people of the section have a long tradition of independence and self-reliance.

Now that we have looked at some of the geographical and historical factors that have long been operative in the culture of the New England states, let us put them together and see what kind of human activities we would expect.

To begin with, although it is true that the early settlers left England because of dissatisfaction with the conditions there, they nevertheless felt many strong ties with their homeland, and certainly they needed many of its products. Moreover, they had some of the products of the new world to give in exchange. Because of the good harbors, a notable trade with England was soon developed, and for a long time Boston was the foremost port of the colonies.

Then, as ships became safer and swifter, trade with other parts of the world developed. But such ships needed to be built, and the forest-clothed old mountains of New England furnished plenty of timber. Naturally, therefore, the colonies turned to ship building, for which they were famous for generations, and to seafaring activities. New England sea captains were outstanding for many years.

The fact that the settlers were trained in the skills of England has been mentioned. One of these was the spinning and weaving of cloth, and the hum of the spinning wheel was heard in almost every colonial home in New England. Then, as technological development introduced power machinery for spinning and weaving, the geography of the section furnished them with exactly what was needed; for the swiftly flowing rivers of the eroded mountain ranges furnished ample water power to run the mills.

To be sure, New England, because of its climate, could not grow cotton for cloth and had to import it from the south. But with her good harbors, this was not too difficult for the coastwise shipping she was building in her own ship yards. And then history again made its influence felt. In the first few years of the nineteenth century, France and England were engaged in a titanic struggle. Both of them tried to involve the United States, and our country wanted to stay out of the trouble. So our Congress passed laws to prevent commerce with European countries. The result was, in the first place, that New England commerce was crippled, and in the second place that southern cotton could not be shipped to Europe. As a consequence, a powerful stimulus to manufacture its own cotton goods was felt in New England, and the textile-manufacturing industries grew enormously.

NEW ENGLAND TODAY

If we look at New England today, we find that again history has vitally affected its situation. As the use of steam and electrical power developed during the last century, water power became less important, and power from coal, abundant in many southern states, became more important. The result was that cotton-cloth manufacturing tended to shift to the southern states, closer to the land where raw cotton is produced. At present the cotton-growing states produce about six times as much cotton cloth as New England does.

However, the early development of manufacturing in New England set a pattern which still exists. It is a great manufacturing region. Massachusetts, for example, produces about a fifth of our country's shoes.

We would expect a very dense population in a manufacturing region and we find it in several of the New England States: Massa-

chusetts and Rhode Island, for example, have over five hundred people per square mile, more than ten times the average for the United States as a whole. Now, these people have to be fed. Moreover, we have discussed the fact that, being an old mountain range, New England has few large plains but does have rich river valleys and plenty of grass. Naturally, therefore, the farmers have turned to easily perishable commodities, such as vegetables and milk, which great centers of population need. Everywhere in New England one sees truck farms and herds of cows.

Because, in the region of an old mountain range, the softer rocks have been eroded away, one would expect that the remaining rocks would be very hard and therefore usable for building. That is just the case in New England, and Vermont marble and granite are famous everywhere.

We have spoken of the fact that the coast of New England is sinking, producing many good harbors and a wide continental shelf. This should mean that there would be good fishing conditions, and, of course, that is true. When we think of cod, halibut, mackerel, and lobsters, we immediately think of New England, whose hardy sons have supplied us with fish from the Grand Banks for over two hundred years.

Finally, we have mentioned the dense population of New England, and we could also have remarked that it is adjacent to one of the greatest centers of population in the world, the New York City area. City people need recreation, and even before the days of the automobile, the mountains of New England were famous as summer vacation centers. Since the development of the automobile, the importance of summer visitors has been enormously increased in New England, and now one of the largest businesses of Vermont, New Hampshire, and Maine is providing for vacationers.

If we look back over our discussion of New England, we will find that it is a consideration of the present pattern of human use of a region of our world. Interwoven into this pattern are both geographical and historic factors. But our approach has been basically from the standpoint of geography. Each historical element is part of a highly complicated world situation: the religious and political situation in England in the early seventeenth century, the Napoleonic wars, and the development of the industrial revolution in the United

States. These situations were mentioned briefly and were introduced only to explain why the pattern of man's use of his geographical environment turned in one direction or another. So although one may say that the outline for the study of New England as given above is an integration of geography and history, yet the basic point of view and approach to the subject matter is geographical. History was used as an adjunct to understand the human pattern as it was fundamentally affected by the geography of the region.

Definition of the Social Studies

It is now time for a general definition of the social studies. The province of the social studies is the human drama. The plot of this drama is furnished by the operations and effects of human motivations and institutions and its stage is the surface of the earth, with its plant and animal life at the bottom of its atmospheric ocean of air. Geography studies the character of this stage and the ways in which it acts as both a limiting and a liberating force in the development of the plot of the drama.

It is our contention that of these two elements the plot of the drama and its stage, the former is vastly more complicated. Economic, social, religious, and political forces are hard to explain to children; far harder, for example, than the work of running water or the effect of rainfall on crops. And we believe that although any good teacher of the social studies will use both geography and history to explain any given situation, he will be forced to take either an historical or a geographical orientation for his explanation; one must be dominant with the other used as necessary. This fact has apparently been neglected in many of the rather heated discussions of integration over the last thirty years.

Difficulty of Historical Concepts

The *facts* of history are relatively simple and relatively unimportant. The real study of history is of conflicting ideas held by groups of people and the effect of these ideas on human lives. Many

of these ideas are difficult if not actually abstruse. For example, consider the problem of currency in our country. It would be difficult indeed to explain to the average elementary-school pupil the great service of Alexander Hamilton in putting our currency and securities on a sound basis; still more difficult to explain the conflict between Andrew Jackson and Nicholas Biddle over the Bank of the United States; and most difficult of all to make clear the meaning of "16 to 1" and the famous "Cross of Gold" speech of William Jennings Bryan.

It is at least doubtful whether children can really grasp the importance of Daniel Webster's famous reply to Hayne; to do so they would have to comprehend the real difference between a federal union and a voluntary alliance of sovereign states.

Comprehensibility of Geographic Concepts

Most of the concepts of geography are relatively simple and many of them are demonstrable. Erosion, the need of plants for water and good soil, the effects of temperature, evaporation, the effects of sunlight; these and many more are basic in geography and either are already in the experience of children or can easily be demonstrated by simple experiments.

It is, therefore, our contention that in grades four through six, social studies instruction should be basically geographical. But two very important reservations must be discussed.

First, we doubt whether the kind of geography typical of the past has any place in the modern school. This kind of geography consisted largely in memorizing long lists of place locations, boundaries of countries, products of regions, and other unconnected facts. Geography in the elementary school should not be a descriptive study; *it should be a causal study*. It should be a study of how man and his natural environment are interrelated; of what men do and why they do it; of the patterns of human use of geographic environment.

Second, we are not ruling out history in the elementary school. As we have already said, the facts of history should be introduced into the study of geography whenever they are pertinent to an explanation of the activities of people.

History Through General Reading

There is another kind of history that deserves a very prominent place in the elementary school. Those connected with the book publishing business speak of two kinds of books for children, textbooks and trade books. The latter are not ordinarily bought in lots for school use, but are sold by the individual copy and are bought extensively by parents as well as by schools. They are often fiction; sometimes books of biography, of travel, or of history.

These books have become both much better and much more numerous in the last fifty years. They are written by experts in writing for children and are attractively printed, often with many pictures. And many of them are most useful for the teacher of the social studies. They give intimate pictures of how people of the past lived: what they ate, what their homes were like, and what kind of daily activities they engaged in.

We believe that such books should be furnished to our elementary school children in abundance and that they should be read and discussed as literature, not as history. It is, of course, perfectly possible to concentrate in each grade on one period of history and to select trade books dealing with this period. This was done in at least one large school system, and the local staff was pleased with the results.

A New Approach to Social Studies

We are proposing that the social studies curriculum in grades four through six have geography as its basic orientation. A very common sequence in our schools has been to devote the fourth grade to a study of life, especially child life, in varying regions of the world, such as hot moist regions like the Congo valley; hot desert regions like Egypt; low altitude, middle latitude regions like Holland; high altitude middle latitude regions like Switzerland; and high latitude deserts like the tundra. In each case, the children are expected to learn how geographical influences affect the way in which people live and make their living. We would attack this problem differently.

Fourth-Grade Studies

It seems to us to be at least doubtful whether fourth-grade children, having learned little geography up to the fourth grade, can really understand the subject matter proposed for the fourth grade. They simply do not have the background for such understanding. In order to "make the material interesting to children" the teacher emphasizes the different and the bizarre, without much comprehension of why the differences exist. We discuss the wooden shoes of the Hollander and the Alpine goatherds of Switzerland, even though wooden shoes are worn by a small minority of the Dutch and Switzerland is one of the most highly industrialized countries of Europe.

It would seem, therefore, that a new approach to geographical understanding should at least be tried. This approach would stress the study of the immediate environment of each class of children; the class would analyze the operation of geographical influences which they can see with their own eyes. In other words, the fourth-grade social-studies program would be devoted to a study of "home geography."

It must be admitted that textbooks will probably not be available for such a study. A book company publishing texts for national use cannot be expected to furnish texts which analyze geographical influences in any individual community. But groups of trained teachers who are willing to study the geographical environment of their individual communities can produce materials that will guide their fellow teachers in excursions and field studies to make clear the operation of geographical factors.

Fifth- and Sixth-Grade Studies

The recommendations we have made may not be adopted by many school systems immediately, and the more common fourth-grade pattern of studying life in various typical regions will continue for some time to come. In this organization of the curriculum the fifth and sixth grade will study the geography of our world. This is far too little time to do a good job. Many school systems have recognized this fact and have added the seventh grade to complete

geographical studies. If we think, then, in terms of devoting two or three grades to the study of the geography of our whole world, what will be the character of this study?

There seems to be little doubt in the minds of those who have observed the study of geography in our schools that what we have done in the past has been pitifully inadequate. The former Commissioner of Education of the United States, John W. Studebaker, once referred to the American people as "the most geographically illiterate people of any civilized country in the world." Part of the blame for this situation lies in the *memoriter*, stultifying way in which the subject has been taught in the past. Part of it, however, is because we have attempted the psychologically impossible. We have tried to study each country separately; we have expected our children to learn and remember all the characteristics of dozens of nations; and we have apparently believed that if a child knows the important characteristics of the various countries which make up a continent, he will add them up mentally and get a picture of the whole continent.

This is a psychological absurdity. The young child simply cannot be expected to do the kind of integrative thinking which such objectives demand of him. What then, ought to be the characteristics of geographical teaching in the future?

Continental Studies

First, far more time should be devoted in the future than has been in the past to a study of geographical patterns of entire continents. Varying distances from the equator; mountain masses; varying amounts of rainfall; distribution of natural resources—of which cultivable land is, of course, one; and historical forces such as the development through the ages of friendships, enmities, racial agglomerations, and the like; all these should be studied for a continent as a whole, so that the complete continental pattern is understood by the pupil.

It is, of course, impossible to study in detail, as we did for New England, the multitude of patterns operative in all the countries of the world. If we did, any psychologist would testify that the children would not remember them. But the great countries can

be so studied—countries such as India and China with which the peace of the world at present is so much concerned—and this study will be much easier and much shorter if continental patterns are first considered and understood. If these patterns have been well taught, then when a newspaper reader encounters the name of a smaller country which he has not especially studied in the school, he has at least a continental pattern into which to fit it.

We are proposing, then, a study of the geography of the world in grades four⁸ through six, and if possible, through seven; a study stressing continental patterns, not attempting to consider all the details of the geography of each country but rather spending most of the time on the larger countries which are most involved with the problems of peace in our present world and utilizing historical facts and data as they help to make the present situation intelligible.

At the same time our children in grades four through six or seven will be reading interesting trade books dealing with the history of our country, and discussing them as literature. There will be no tests on such books, nor consideration of "minimum essentials" in historical facts or understandings. The books will be read and discussed "for fun," and we believe these experiences will not only teach much history but will also help develop a genuine interest in the subject.

Our Students on Entering High School

Many high-school teachers have said that they wished that the elementary school would leave history alone. They say that at the elementary-school level the children are not old enough to grapple with the real issues of history, and all that happens is that they get a smattering of history which tends to make them bored and irritable (because they believe it's the same old "stuff") when they undertake a significant study of chronological history in the high school.

If the kind of social studies we have indicated in the previous discussion is adopted, children on entering high school will have a picture of our present world in its geographical patterns and will have read much interesting historical material on their own country.

⁸ For the present, grade four will be included in this group. Eventually, we hope, fourth grade social studies will be devoted to "home geography."

These will have prepared them, by understanding something about the people of the past and their problems, to understand and appreciate chronological history.

Instruction in Civics

Little or no attention has been given to the study of civics. Instruction in civics has at least three phases.

First, there is training in good civic behavior. In many respects behavior for a child will differ radically from that for an adult; in others it will be remarkably similar. For both, sound behavior will require consideration of what is for the best for all; what behavior most actively facilitates good social relations between people; and what behavior gives each person the widest latitude of personal action without interfering with the actions of others.

Second, there is training in actual participation in organizations to secure best civic behavior.

Third, there is training in the institutions which we have designed in our country to secure sound civic behavior of our citizens; in other words, in the structure of our local, state, and national government.

It is our belief that the first kind of instruction will be a concomitant of a good classroom atmosphere and of good instruction in the realm of the social studies. As Chapter 1 pointed out, in classroom discipline and teacher-pupil relations there will be continuous exemplification of the desirable ways in which members of a group work together cooperatively. Rules will be made by the agreement of the group to ensure most satisfactory classroom management. Moreover, in studies of the governments of other regions of the world, there will be an emphasis upon contrasts between those regions in which democratic ideals are being worked out and those in which autocratic and tyrannical methods obtain.

In the realm of participation in self-government, it is to be hoped that both in individual elementary-school classrooms and in the administration of the elementary schools, student participation in self-government will be exemplified.

With respect to the study of the actual structure of our government, we believe that though the historical reading and the discussion of many foreign governments which we have recommended, much about our country's government will be learned. The actual study of the structure of our government is too difficult for most elementary-school pupils and should be left to the junior and senior high schools.

Perhaps at least a few of our readers are questioning our recommendations. Such persons would probably like to ask two questions: (1) If I learned the material in the elementary schools, why cannot my pupils learn it today? (2) Is the teacher really free to make changes of the order suggested here?

With reference to the first question, it is questionable that the material was really learned. Of course, the pupil was able to memorize certain facts, but we doubt that he fully understood the significance of the facts which he memorized while studying history, civics, and geography in the elementary school.

With reference to the second question, we believe that the teacher can take cognizance of the problems we cited and give primary emphasis to the study of geography. Even the most autocratic administrator permits the teacher to make such adaptations to best meet pupils' needs. Furthermore, most administrators will encourage experimentation under circumstances such as we described above. Even then, of course, the teacher will have to produce special materials, but we believe he will achieve enough additional satisfaction from doing a good job to feel repaid for the extra effort. And it is just such extra effort that brings about the necessary changes in the schools.

Tools of Learning

In the preceding pages we have discussed some of the problems and primary purposes of teaching social studies. There remain to be considered some problems concerning instructional materials which are in part at least problems of the entire elementary-school program.

The Textbook

Since Chapter 6 was devoted to the textbook we shall comment on only a few pertinent points here. As we see it the textbook offers the teacher three advantages in teaching social studies.

First, a good textbook in the social studies contains pictures and graphical material which illuminate the written pages. If each pupil has a copy of one text, the situation lends itself to leadership from the teacher on how to study such visual material, and how to get the most meaning out of it. The idea that "pictures speak a universal language understood by all," or that graphical material tells its own story clearly, is utterly false; this is well understood by all who have worked with children—or, for that matter, with college students! Pupils need to learn how to *read* a picture and how to interpret graphical material. If each member of a class has the same picture or the same graphical material before him in a common textbook, leadership in interpretation becomes both feasible and easy.

To the extent that all the pupils can read the textbook, it furnishes a common reading experience. As such it furnishes a "universe of discourse"; a basis for class discussion which will be generally useful because it has been generally shared.

Many theorists today would do away with texts and use separately printed "source materials." The two difficulties with this conception of instructional materials is that in the first place it is sometimes difficult to obtain such materials at the level of the elementary-school child, and second, that children who have not shared the same reading experiences will have difficulty in finding a common ground for discussion because they have not shared educational experiences.

Finally, the textbook has a great value in giving the teacher the opportunity to teach children how to study written material. Every adviser of college students has had the unhappy experience of counseling students who are failing or likely to fail in their work. The usual explanation these students give for their poor work is that they "never learned how to study." This is probably true. Many have never heard of such simple study techniques as summarizing material in one's own words, looking for the topic sentence

in a paragraph, or visualizing material and comparing it with the previous experience of the student. If children are taught such techniques (and others which we have not space to enumerate) they will find it much easier in adult life to evaluate written materials or to accumulate knowledge from books, as they will have to do if they go to high school or college.

Collateral Reading Materials

There is no implication in what has been said above, that the textbook should constitute the sole reading material for social studies classes. Single copies of many textbooks should be made available. Many excellent trade books are being produced today which have valuable material for children studying the social studies. Some of our large industrial concerns publish good educational materials for the schools with a minimum of advertising. Many standard children's books of the past, such as *The Hoosier Schoolboy* by Edward Eggleston or *The Story of a Bad Boy* by Thomas Bailey Aldrich, reveal exciting and interesting features of the daily lives of boys and girls in the past. Such supplementary reading materials should be in every elementary-school classroom.

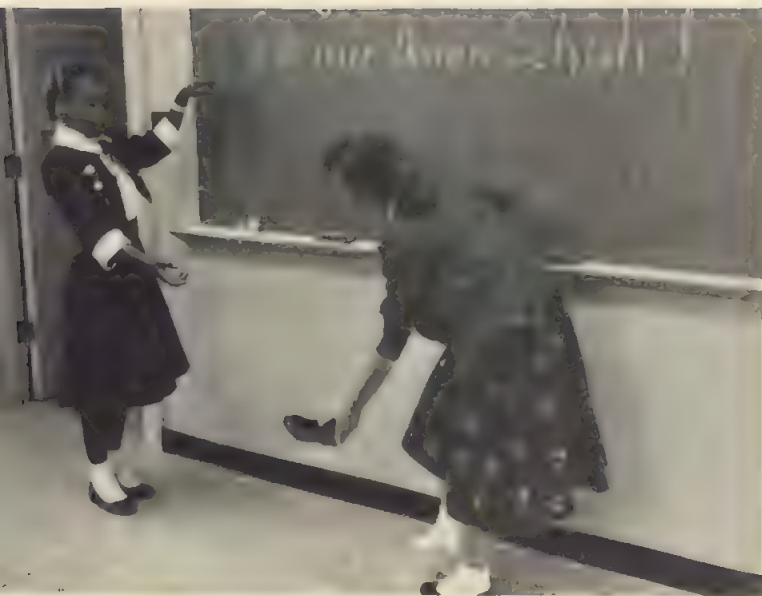
Visual Materials

Good schools today furnish teachers with files for instructional materials. And there are many sources of such materials. Sunday magazines that form a part of the Sunday editions of metropolitan newspapers and magazines of general circulation furnish a wealth of pictorial and descriptive material. These should be cut out and filed.

In addition, a modern school system will have film strips and motion pictures in some central library, together with information where other materials can be obtained. It is, of course, perfectly true that such visual materials do not automatically educate children, but they are of immense value to teachers who wish to enrich their instruction in the social studies.



Even second-graders enjoy the reading circle, with a chance to hear a good story from a teacher who likes to read. Recreational reading times such as this help build the feeling that reading is fun and that the content of a book is meaningful. A good selection of story books can enrich a classroom that uses identical textbooks for all, and can provide for wider and more advanced reading experiences. (Photo: Los Angeles City Board of Education.)



What is the goal of training in foreign languages in elementary school? Is the hear-and-do method the most useful in these years? How can foreign-language training be integrated with other parts of the curriculum? (Photo: Southern Illinois Foreign Language Department, C. William Horrell, photographer.)



Maps and Globes

Every classroom in which instruction in the social studies is being given—with the exception, perhaps of grades one and two—should have a good globe. One of the simplified 12-inch globes is probably the best choice.

In the upper grades, all classes should have a world map. The Mercator projection is not desirable, because the distortion in high latitudes will mislead the children. The so-called modified sinusoidal or equal-area projection, in which distortions are mainly confined to oceans, is much better. But in every class there should be large maps of all continents; the study of any one section of the world may lead to the need for studying any other section.

The Tape Recorder

Although the tape recorder is a newcomer in the field of educational apparatus, many enthusiasts believe that it will take a high place among educational materials. With it a teacher can record for later use such things as dramatizations in the social studies, reports on special reading topics, and classroom discussions. Children enjoy using it and find it useful in evaluating learning activities.

Summary and Conclusion

We have indicated the highly controversial character of the social studies in the curriculum of the modern elementary school. We have outlined the difficult position in which the elementary-school teacher is placed because of the confused situation in our present world and his heavy responsibility in preparing future citizens of the most powerful and most truly democratic nation of the world.

In discussing the character of his work we have described how he must give our future citizens an understandable picture of the relationship of people to their natural world and some degree of

understanding of the world as conditioned by the operation of natural forces.

Finally, we have described some of the materials on which the social studies teacher may rely to effect the understandings which will enable our future citizens to become intelligent voters and participants in the government of the world's greatest industrial and military power.

DISCUSSION QUESTIONS

1. Why should we be concerned about helping our pupils see us as the people of other nations see us?
2. In what ways did the child-centered theory of the twenties fail?
3. How may teachers avoid some of the misconceptions which children often acquire in studying social studies in the primary grades?
4. How may they use the ideas presented on New England to integrate geography and history? What did each contribute to helping our readers understand the conditions as they exist in New England today?
5. Why is it easier for elementary-school pupils to understand geography than history? Cite examples from your own experience to illustrate your points.
6. What are the primary advantages of building the social studies program around instruction in geography?
7. How can instruction in civics be incorporated into the social studies program?
8. What are the primary advantages of using a textbook in teaching social studies? What are its primary limitations?
9. How may one use a social studies textbook to improve pupils' study skills?

SUGGESTED READINGS^a

BOOKS

Association for Childhood Education, *Social Studies for Children*: "Social Studies in the Elementary Curriculum" by Agnes Snyder; "Social Studies in the Context of Social Living" by Lucille Lindberg. "Organizing the Social Studies Program" by John E. McGill. Washing-

^a The authors of this book are grateful to John E. McGill for selecting and annotating the books included in the Suggested Readings for this chapter.

- ton, D. C.: Bulletin 9-, The Association, 1956. This ACEI Bulletin presents a concise treatment of three important aspects of the social-studies program: the place and role of social studies in the elementary-school curriculum, social studies in the context of social living; and the organization of the social studies program.
- Beard, Charles A., *A Charter for the Social Sciences*. New York, N. Y.: Charles Scribner's Sons, 1932. This is, of course, not a recent book, but it is regarded by many theorists in the field as a truly classic pronouncement which every student should read.
- Klee, Loretta, et al., *Social Studies for Older Children*. Washington, D. C.: National Council for Social Studies, National Education Association, 1953. This volume includes sections on child-development principles and research findings with suggestions for improving the social studies program. Sample programs from different school systems are included and serve to illustrate various approaches to organizing social studies instruction.
- Michaelis, John U., *Social Studies for Children in a Democracy*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1956. Central to the theme of this text is the idea that democratic values and behavior must permeate all aspects of the social studies program: its goals, its teaching methods and materials, and its evaluation procedures. Several chapters on instructional materials as well as single chapters on effective group procedures and evaluation contain a wealth of information and ideas for the elementary-school teacher.
- Miel, Alice, and Brogan, Peggy, *More Than Social Studies: A View of Social Learning in the Elementary School*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957. A stimulating book which presents the broad view of social education as a major function of the elementary school. Not only does the text challenge the elementary-school teacher to regard social education as "more than social studies," but it also gives him many practical suggestions for actually carrying out such a program.
- National Council for the Social Studies, *How-To-Do-It Series*. Washington, D. C.: National Council for the Social Studies, N.E.A. These brief leaflets are helpful to teachers in using different instructional materials such as maps, globes, films, recordings, texts, and trade books in teaching the social studies.
- National Council for the Social Studies, *Improving the Social Studies Curriculum*. Washington, D. C.: Twenty-sixth Yearbook of the National Council for Social Studies, N.E.A., 1955. This yearbook sets forth the tasks to be achieved in improving the social studies program. It also presents basic principles, problems, issues, and trends involved. Actual programs for the improvement of social studies teaching now underway provide helpful examples and illustrations.
- Nation Society for Study of Education, *Social Studies in the Elementary*

School. Chicago, Ill.: Fifty-sixth Yearbook, Part II, University of Chicago Press, 1957. This yearbook covers many different aspects of the social studies program, such as current problems, curriculum trends, organization and teaching procedures, child development, and the social sciences.

Otto, Henry J., *Social Education in Elementary Schools*. New York, N. Y.: Rinehart and Company, 1956. This textbook deals thoroughly with the social, character, and citizenship education of elementary-school children; the different components of the school's program which contribute to the social education of children; and current and preferred curriculum practices and procedures. Beyond this the author digs more deeply than most into the problems and issues involved in improving programs for social education.

Preston, Ralph C., *Teaching Social Studies in the Elementary School* (rev. ed.). New York, N. Y.: Rinehart and Company, 1958. Part I of this textbook covers such important topics as the place of social studies in the elementary school, the objectives and organization of the social studies curriculum, and the child's social development and learning. In Part II the unit method is developed, followed by several chapters which present and analyze types and examples of actual units. Special methods and materials for teaching and evaluation are covered in Part III.

Wesley, Edgar B., and Adams, Mary A., *Teaching Social Studies in Elementary Schools* (rev. ed.). Boston, Mass.: D. C. Heath and Company, 1952. This volume thoroughly covers the many aspects of the social studies program. Modern program trends; recent findings from child study; and new developments in learning theory, methodology, instructional materials and evaluation techniques have been included to make this textbook a source of many practical helps for teachers.

PROFESSIONAL JOURNALS

Two organizations have for many years been publishing excellent materials for teachers in the field of the social studies. Any teacher may become a member of both of these organizations by paying the annual dues. The publications of these two societies also are available in most college and university libraries. They are:

National Council of Geography Teachers. This organization publishes monthly *The Journal of Geography*. The publisher of the journal, to whom inquiries about the organization may be sent, is The A. J. Nystrom Company, 3333 Elston Road, Chicago, Illinois.

The National Council for the Social Studies. This organization publishes *Social Education*, as well as a yearbook. The address is 1201 Sixteenth Street, N. W., Washington, D. C.

Teaching Arithmetic

Place of Arithmetic in Elementary Education

TRADITIONALLY, one important area of study in the elementary school has been arithmetic—the third R of Readin', Ritin' and 'Rithmetic. The defense of the place of arithmetic in the elementary-school curriculum, however, does not depend on tradition; there are many valid reasons why pupils should learn arithmetic.

Future Practical Needs

In recent years the necessity for the study of arithmetic by all pupils in the elementary school has become greater than in former years. The increase in complexity of modern life, the greater application of science to many phases of life, the increased mechanization of industry and homes, and the increased complexity of money-management problems at all levels from high finance to the family income—all these have made the study of arithmetic an extremely important part of elementary-school education. Concerning the need for learning arithmetic for later use in the home, business, industry, crafts, engineering, and science there is little controversy. Most are agreed that arithmetic learning is a necessary and fundamental part of a preparation for future needs. Most educators also agree that

every pupil who has the ability should learn the mathematics usually taught in the first eight grades of the elementary school. Some teachers and administrators believe that most pupils need much more mathematics than this to function successfully in our present industrial, technological civilization.

As a pupil matures he should develop mathematical competencies which will enable him to change his major field of interest without too great a sacrifice. Without mastery of basic arithmetic hundreds of doors of opportunity are closed.

Immediate Practical Needs

The place of arithmetic instruction in elementary education does not rest entirely upon the principle that arithmetic study is preparation for future practical needs. Learning arithmetic is important to the pupil in the elementary school for several other reasons, some of them practical, some not.

One practical need for the study of arithmetic is similar to the child's need to learn reading when he first comes to school. A child needs to *learn to read* so that he may *read to learn* during his school experience. In the same way a child needs to learn arithmetic so that he may use its concepts and skills in studying in other fields.

Horn lists some quotations from elementary-school textbooks that show the need for knowledge of mathematical concepts to understand the ideas involved:¹ "*almost two hundred years*"; "*through many centuries*"; "*millions of dollars*"; "*nearly two miles wide*"; "*ranges from twenty-five to one hundred twenty-five per square mile*"; "*nine hundred square miles*"; "*three and a half million*"; "[the river] *falls only four inches in a mile*"; "*. . . less than twenty-four times the annual world production*"; "*about eighty thousand tons a month*"; "*each dot stands for 100,000 people*"; "*several thousand acres*"; "*five hundred people on each square mile*"; "*half a mile above sea level*"; "*hundreds of millions of board feet*"; "*average rainfall ranges from twenty to thirty inches*"; "*each year from sixty*

¹ Ernest Horn, "Arithmetic in the Elementary School Curriculum," *The Teaching of Arithmetic*, 50th Yearbook of the National Society for the Study of Education, 1951, p. 11.

to seventy percent"; "land values doubled and doubled again"; "over 1,000,000 bales of cotton a year which is about one-fifth as much as is normally exported by the United States."

The elementary-school pupil, then, has the immediate practical need to learn many concepts of arithmetic for the purpose of reading with understanding the textbooks and reference books he uses in his learning experiences.

The child's everyday life of work and play also calls for knowledge of the arithmetic needed for counting, adding, subtracting, making change, measuring, simple multiplications, and divisions. Arithmetic is thus necessary for the child's immediate practical needs.

Creative Outcomes

Another contribution that arithmetic learning can make to the growing child is to help meet his need for creation. Some teachers have not recognized this possibility in arithmetic and have thus robbed many children of pleasant creative experiences. A child enjoys making a drawing, a clay animal, a finger-painting design, or a mural. Arithmetic too, offers opportunities for discovery and creation.

Bill, a second grader, was asked to go to the store to buy three boxes of tacks for the class project. The tacks cost 13¢ a box. The teacher asked him how much money he needed. Bill thought a minute and said, "I need 39¢."

"How do you know?" asked the teacher.

Bill replied, "Thirteen cents is a dime and three pennies, so three boxes will cost three dimes and nine pennies. That would be 39¢."

Bill had not been told how to do a problem like this. He did not think, "Is this a multiplication problem or is it an addition problem?" He did not even know what multiplication meant. Bill *created* his own way. He had the pleasure of success, of creation.

Tom, a fourth-grade pupil, read a statement in a book that when developed a certain rocket would go 700 feet a second. Tom asked his teacher how far that would be in a minute. The teacher asked Tom if he knew that there are 60 seconds in a minute. He did. The teacher then said, "Tom, I could find the answer for you, but wouldn't it be fun if you could find your own way?" Tom agreed and proceeded to think about the problem.

After a time Tom came back to the teacher and said, "I think I know a way to find the answer."

"How?" asked his teacher.

"I know the rocket will go 700 feet in 1 second, so in 2 seconds it will go 1400 feet. In 4 seconds it would go 2800 feet," replied Tom.

The teacher nodded, "I think you are on the right track, Tom, keep going."

After a time Tom came to the teacher with a paper that looked like this:

1	700
1	700
<hr/>	
2	1400
2	1400
<hr/>	
4	2800
4	2800
<hr/>	
8	5600
8	5600
<hr/>	
16	11200
16	11200
<hr/>	
32	22400
32	22400
<hr/>	
64	44800

Tom said that he was stuck because he found 64 seconds, but wanted only 60 seconds.

"Do you know from your work how far the rocket goes in 4 seconds?" asked the teacher.

"Sure," said Tom, looking at his work. "It goes 2800 feet."

"If 64 seconds is 4 seconds too long, what can you do?"

"Oh, I see," said Tom. "I will subtract 2800 from 44800 and I know the answer. It is 42000 feet. The rocket will go 42000 feet in one minute."

Tom certainly did not follow standard procedure to solve this problem. In fact, he did not know the usual method; he created his own method.

Very often if children are not told too soon they can discover for themselves. Later in the chapter other examples of discovery or creation will be presented.

Esthetic Needs

Arithmetic is the favorite subject of many pupils in the elementary school. There is something about the thinking, the problem-solving, the systematic nature of arithmetic that children like. "Arithmetic is fun," they say.

A teacher who also enjoys arithmetic and teaches it to the children with enthusiasm can contribute a great deal to the pupils' enjoyment of the subject.

It is difficult to determine particular elements of arithmetic instruction that contribute to the esthetic enjoyment of pupils because enjoyment is an individual matter. Probably one of the most important factors, however, is that of the enthusiasm and joy the teacher finds in teaching arithmetic. The teacher's attitude toward the subject is caught by the pupils.

Some teachers also believe that when pupils really understand arithmetic they find it more enjoyable. When the pupils can see the neat relations between various topics and can feel secure in reasoning within the framework of these relations they react with pleasure. The feeling for rhythm, pattern, and design can be satisfied just as thoroughly in arithmetic as it is in music and art. For example, the pupil who is able to see the very interesting relations between subtraction of whole numbers and division of whole numbers sees a fascinating pattern that may be beautiful for him.

One pupil expressed enjoyment at the discovery that in all of the products of 9 and another number, the sum of the digits is always 9. "Look," he said, " $1 \times 9 = 9$;

$$2 \times 9 = 18, \text{ and } 1 + 8 = 9;$$

$$3 \times 9 = 27, \text{ and } 2 + 7 = 9;$$

$$4 \times 9 = 36, \text{ and } 3 + 6 = 9;$$

$$5 \times 9 = 45, \text{ and } 4 + 5 = 9;$$

$$6 \times 9 = 54, \text{ and } 5 + 4 = 9;$$

$$7 \times 9 = 63, \text{ and } 6 + 3 = 9;$$

$$8 \times 9 = 72, \text{ and } 7 + 2 = 9;$$

$$9 \times 9 = 81, \text{ and } 8 + 1 = 9;$$

$$10 \times 9 = 90, \text{ and } 9 + 0 = 9."$$

Another pupil, after seeing the table of fractional-decimal relations shown here, reacted with enthusiasm. "Isn't that interesting!" he said.

$$\frac{1}{9} = .111\frac{1}{9}$$

$$\frac{2}{9} = .222\frac{2}{9}$$

$$\frac{3}{9} = .333\frac{3}{9}$$

$$\frac{4}{9} = .444\frac{4}{9}$$

$$\frac{5}{9} = .555\frac{5}{9}$$

$$\frac{6}{9} = .666\frac{6}{9}$$

$$\frac{7}{9} = .777\frac{7}{9}$$

$$\frac{8}{9} = .888\frac{8}{9}$$

$$1 = \frac{9}{9} = .999\frac{9}{9}$$

Arithmetic for its own sake, when understood, is fun for many pupils.

Other phases of arithmetic also provoke pleasant emotions. The pupil who has had success solving a difficult problem has a very pleasant emotional experience. The pupil who makes a discovery, the pupil who learns a shortcut, and the pupil who has a sudden insight into some mathematical idea, will have pleasant emotional experiences that satisfy their esthetic needs.

Methods of Teaching Arithmetic

There have always been good teachers of arithmetic, and there have always been poor teachers of arithmetic. What methods do the good teachers use? What do good teachers of arithmetic do in

their classes that makes for efficient learning, stimulated interest, and enjoyable experiences?

The experiences of many teachers, psychologists, and mathematics specialists have resulted in some methods of teaching arithmetic that educators believe to be preferable to the traditional methods. These methods are sometimes given the collective name of the "Meaning Theory of Teaching Arithmetic." The emphasis in this chapter will be in accord with this "Meaning Theory," but before discussing the theory in detail we will first look at another theory of teaching arithmetic, the "Drill Theory."

The Drill Theory

The 1920's saw many research workers conducting research within the framework of the currently popular theory of learning of "connectionism" or "stimulus-response" psychology. Arithmetic, with its drills on number facts, provided an easily accessible field of study. Hence many studies were conducted on the laws of exercise and effect in arithmetic learning. As a result of these experiments many teachers and textbook writers emphasized the drill method in teaching arithmetic.

The emphasis of the teaching was upon fixing the facts and processes of arithmetic by drill. Workbooks and textbook authors made tedious counts of the frequencies of combinations and operations in the textbooks. Care was taken to see that 6×8 appeared as often as 8×6 . It was not considered sufficient that a pupil knew 6×8 ; he also had to practice 8×6 , which had a different stimulus-response connection from 6×8 . Systematic multiplication tables were avoided and mixed multiplication practice was provided from the beginning. Drill pads, flash cards, and other drill devices were prominent in the classroom, as was the stop watch, which was used for speed tests.

Because of the extreme emphasis on drill in many classrooms very little attention was given to the "reasons" for procedures, the meanings of concepts, or the ability to solve problems. The drill theory of teaching arithmetic might be described as the "tell-and-do" method. The teacher told the pupils how to do it. They did it over and over until they could repeat it accurately and rapidly.

The Meaning Theory

The meaning theory is not a carefully structured, deductive system. Rather it is a program of instruction with certain emphases. Its advocates believe that optimum learning in arithmetic will result when these emphases are followed.

In the 1930's and later several arithmetic specialists pointed out the fact that a pupil might do well with page after page of drill exercises in arithmetic and still not be able to solve practical problems. They asked, "What is the goal of arithmetic instruction? Is it to have pupils do exercises well, or to have them solve problems well?" They reminded teachers that when a subject is learned as a series of isolated facts forgetting occurs very easily. Once a fact is gone there is no frame of reference to help the pupil deduce the fact again.

Some research studies in the psychology of learning gave evidence that patterns, systems, and forms are easier to learn and are retained longer than discrete facts. A pupil may forget what 7×9 is, but if he has learned arithmetic as an organized body of knowledge he has several ways of quickly figuring out what 7×9 is.

He may say, "I know 7×9 means seven 9's, so I can find the answer by $9 + 9 + 9 + 9 + 9 + 9 + 9 = 63$. I also know 7×9 is the same as $(6 \times 9) + (1 \times 9)$, or $(3 \times 9) + (4 \times 9)$, or $(8 \times 9) - (1 \times 9)$." Since the pupil has not learned 7×9 as an isolated fact, and understands the meaning and general principles of multiplication, he can quickly deduce 7×9 when he momentarily forgets the answer. Without this system he has no way to recover the answer except to be told again what it is.

For competence in problem-solving it is also important to learn arithmetic as a system and to understand the ideas and processes of the subject. Most educators interested in teaching arithmetic agree that one principal objective of instruction is to develop the pupil's ability to solve problems. By the very definition of a *problem*, pupils do not immediately know how to solve one; they must seek out ways to do the job. They ask themselves, in effect, "What ideas,

principles, and skills have I learned from arithmetic that will be useful to me in this new situation?" This is entirely different from being given a set of exercises and told what to do and how to do it. Knowledge of the ideas and principles of arithmetic is needed by the pupil before he can approach a problem.

Frequently a teacher will say, "My pupils can do the exercises all right, but they certainly can't solve problems." One reason the pupils may be having so much trouble is that they have the skills of arithmetic without the *meanings*. They are like the pupil who said, "If you tell me whether to *times* or *plus* these two numbers I can work this problem." If he had known what multiplication and addition meant he could have decided for himself which process the problem required. Thus, from the standpoints of both memorization and problem-solving ability, teaching of the meanings of general principles, ideas, and of their organization into systems is a necessary part of instruction.

How does a teacher apply the meaning theory in the classroom? What characterizes the methods of a teacher who is teaching by the meaning theory?

Systematic Nature of Arithmetic

One characteristic of the meaning theory of teaching arithmetic is the realization that arithmetic is a systematic body of knowledge, and that instruction should be directed toward the system as well as toward the ideas and skills within the system.

This principle has been expressed by R. L. Morton, reporting for the National Council of Teachers of Mathematics Committee on Arithmetic:

... The committee stands for a kind of arithmetic in which both the mathematical and the social aims are clearly recognized—and clearly recognized as interdependent and mutually related. Attainment of the mathematical aim is regarded as possible only if meaning, the fact that children see sense in what they learn, is made the central issue in arithmetic instruction. Arithmetic is conceived as a closely knit system of understandable ideas, principles, and processes and an important test of arithmetical learning is an intelligent grasp upon number relations to-

gether with the ability to deal with arithmetical situations with proper comprehension of their mathematical significance.²

A good example of the application of this system is the relationship between the operations of adding whole numbers and of multiplying whole numbers. Consider the problem: "What is the cost of 6 candy bars at 5¢ each?"

A child who sees no relationship between addition and multiplication may ask, "Do I solve this problem by addition or multiplication?"

The child who understands relationships will know that it does not make any difference whether he uses addition or multiplication. 6×5 means six 5's to this child. He says, "I can work the problem by adding $5 + 5 + 5 + 5 + 5 + 5$ or I can multiply 6×5 ." The child who learned multiplication meaningfully probably worked out his multiplication facts himself, using addition. He found 4×3 by adding four 3's: $3 + 3 + 3 + 3 = 12$. He found 3×4 by adding three 4's: $4 + 4 + 4 = 12$. If asked to find 18×37 without having been told how to multiply by a two-digit number, a child who knows the relation between addition and multiplication of one-digit multipliers might say, "I can do it. It may take me a long time but I could just add 37 eighteen times." Another child with greater insight and experience might say, "I can do it easier because I would add $37 + 37 + 37$ and get 111 and then I would add $111 + 111 + 111 + 111 + 111 + 111$. Adding six 111's gives the same result as adding eighteen 37's but is lot easier." Another child might use this method (the writer has known children who have): " $37 + 37 = 74$, so I know two 37's are 74. $74 + 74 = 148$, so four 37's are 148. $148 + 148 = 296$, so eight 37's are 296. $296 + 296 = 592$, so sixteen 37's are 592. Since two 37's are 74, then eighteen 37's are $592 + 74$, or 666."

The experiences of these children are very different from those of children who know only one mechanical way of multiplying 18×37 . It is good to know the mechanical way, but it is much better to know the relationships that enable one to use many methods. The fear of forgetting is not nearly as great with those who

² R. L. Morton, "The National Council Committee on Arithmetic," *The Mathematics Teacher*, 31: 269 (October 1935).

can solve the problem several ways. May not one of the reasons some pupils get upset about arithmetic be that they know only the tricks? If they forget the tricks they have forgotten everything. No wonder they fear and hate arithmetic.

Another example of relationships in the system of arithmetic is the multiplication of decimals: Why, for example, does $0.7 \times 0.3 = 0.21$, rather than 2.1, or 0.021?

The student who knows the meaning of decimals can answer, because he knows the relationship of decimals to common fractions. He knows that

$$0.7 = \frac{7}{10} \text{ and}$$

$$0.3 = \frac{3}{10}.$$

Since $\frac{7}{10} \times \frac{3}{10} = \frac{21}{100}$ and $\frac{21}{100} = 0.21$, then 0.7×0.3 should be 0.21.

The method of properly placing the decimal point in the product of two decimals is not merely another item from the bag of tricks a pupil stores in his memory. It is a device founded upon reasoning from previous experience and knowledge in arithmetic.

The Rationalization of Processes

A second characteristic of the meaning theory of teaching arithmetic—the rationalization of processes—is closely related to the first, and is also a result of trying to understand arithmetic as a system. For example, when a pupil adds $18 + 17$ he says, “7 and 8 make 15; put down 5, carry 1.” Why? A pupil who has learned the trick without the meaning might answer, “That’s just the way you do it.” A pupil who has learned meaningfully, however, can explain, “I add seven 1’s and eight 1’s and get fifteen 1’s or one 10 and five 1’s. So in the 1’s place I have 5. In addition to the two 10’s in the ten’s column I have another 10. So altogether I have three 10’s and five 1’s, or 35, as the sum.”

The pupil who has learned meaningfully is thus able to develop

the rationale and to explain why he adds, subtracts, multiplies, and divides in solving problems.

Fundamental to rationalization of the processes, insofar as whole numbers are concerned, is the idea of place notation and the fact that 10 is the base of the system of notation.

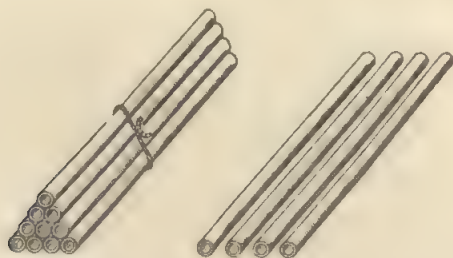
Thus, with only the numerals 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 to use in writing numbers, it is necessary to devise ways of writing these symbols to express numbers larger than 9. To help the pupils understand this fundamental idea, teachers use a variety of teaching aids. Some use splints, drinking straws, or toothpicks and rubber bands, which they pass out to the pupils. The lessons proceed about as follows:

"Hold up one splint. Write the numeral on your paper that means 1. Remember you can use only one of the numerals 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9."

"Hold up two splints. Write the numeral on your paper that means 2. Go on doing this up to and including 9."

"Now hold up ten splints. You notice that you do not have a numeral that means 10. The last numeral you had was 9. How can you use these numerals to mean 10?"

After some suggestions from the pupils, the class decides that the numeral "1" can be used, but that now instead of meaning a single splint it will mean one bundle of ten splints. The pupils place a rubber band around their bundle of ten splints. "How do we write the symbol "1" to show one bundle of ten?"



The pupils decide that they can use places for numbers. They can think of a first place and a second place.

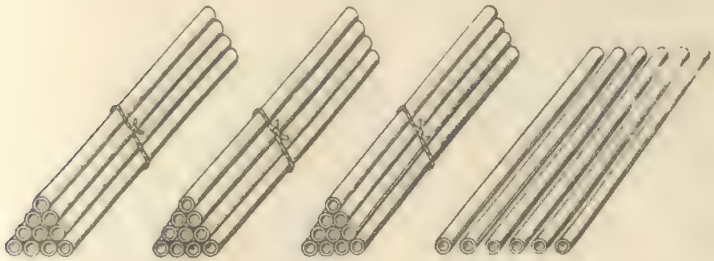
(second place) (first place)

If the numeral 1 is in the first place, () (1), it means one single splint. If the numeral 1 is in the second place, (1) (),

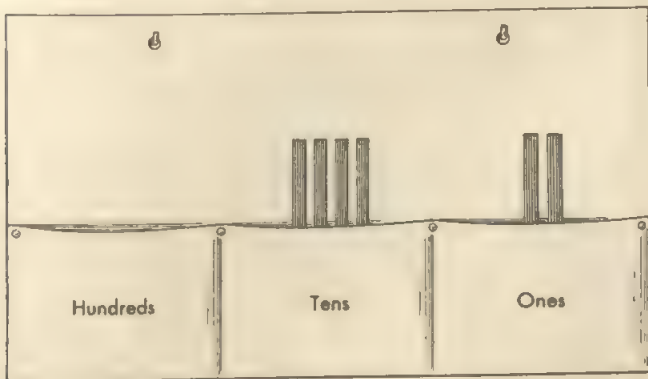
it means one bundle of ten. How do we know by merely writing the numeral 1 whether it is the first or second place? We can't, unless we use the zero. Thus, 10 means one bundle of ten and no single splints.

The teacher next asks the pupils to represent the numbers between 11 and 19 with splints. For example, the number 14 is represented as shown on the opposite page.

The students continue, showing numbers such as 36, and so on.

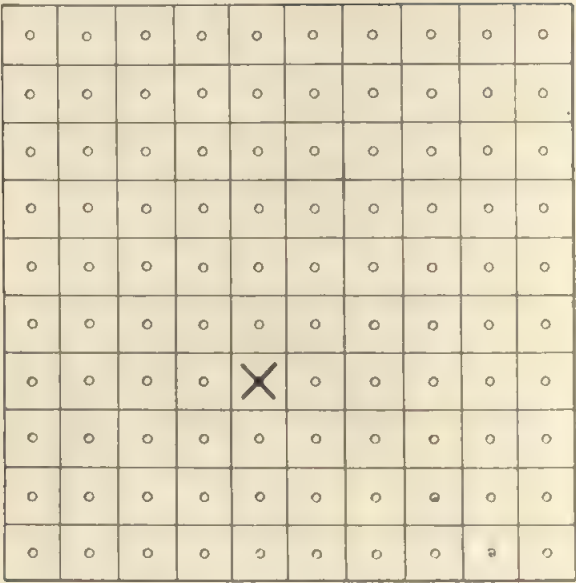


Another teaching aid is a device that can be hung at the front chalkboard as shown here.



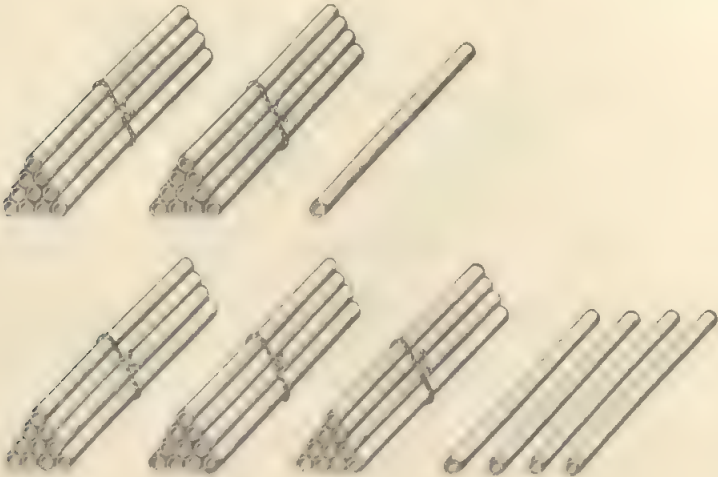
The four splints placed in the pocket marked *Tens* means four tens. The two splints in the pocket marked *Ones* means two ones. The number represented is thus 4 tens and 2 ones or 42.

Another aid that helps teach the tens system and place notation is a board with 100 squares on it.



The square with an x is the sixty-fifth square because there are 6 rows of ten and 5 more squares. Many similar exercises can be developed with this board.

How is this knowledge of place notation used in rationalizing processes? By using groups of single splints and bundles of ten splints the pupils can do many exercises, such as $21 + 34 = 55$.



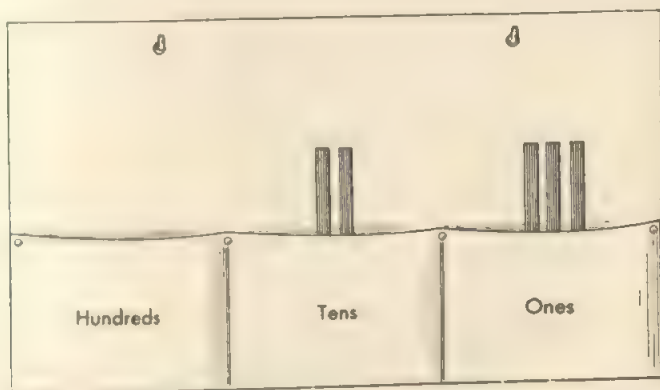
They may write

2 tens	1 one
3 tens	4 ones
<hr/>	
5 tens	5 ones or 55.

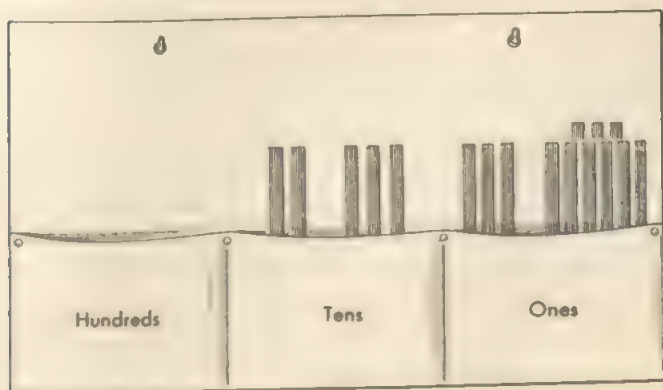
The knowledge of place notation is very useful in helping students discover meaning in carrying.

For example, what is the sum of 23 and 39? A pupil may use bundles of splints to help him or he may use the place notation board.

First the number 23 is placed on the board as two tens and three ones

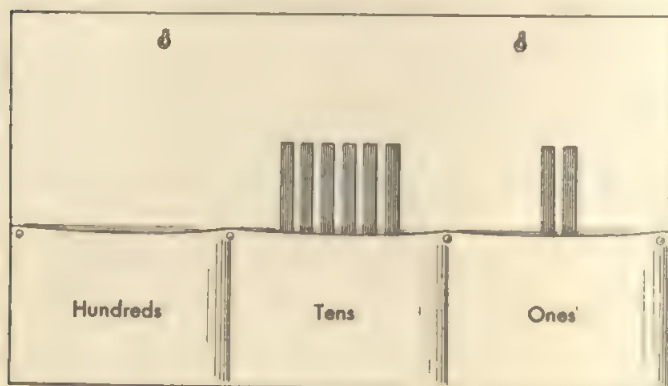


Next, three tens and nine ones are added.



"Now there are too many ones in the *Ones* pocket. What do we do? Of course, we take ten ones out of the *Ones* pocket and represent it by a single stick in the *Tens* pocket."

The answer then appears as this:



While this is being done, an analysis like this may prove helpful:

2 tens and 3 ones

3 tens and 9 ones

5 tens and 12 ones, or 6 tens and 2 ones.

Finally, the pupil will have discovered the basic process of carrying that underlies these addition examples. He will then be able to apply this principle in general.

The idea of place notation can be used to help rationalize subtraction, multiplication, and division. For example, how does one subtract 28 from 43? Using the take-away method of thinking the pupil would first place 4 bundles of ten and 3 ones on his desk. Next he would try to take away 8 ones and 2 tens. When he tries to do this he finds he does not have enough single splints to be able to take away 8 of them—he has only 3. Now what to do? Why not take the rubber band off one bundle of ten splints and make single splints out of them? When this is done there are 13 single splints. When 8 are taken away 5 remain. Now the pupil takes 2

bundles of ten from the 3 bundles and finds the remainder to be 1 bundle of ten and 5 ones.

Another way this may be analyzed is as follows:

$$\begin{array}{r} 4 \text{ tens} + 3 \text{ ones} \\ 2 \text{ tens} + 8 \text{ ones} \\ \hline \end{array}$$

Next 1 of the 4 tens can be decomposed to ten ones, so

$$\begin{array}{r} 3 \text{ tens} + 13 \text{ ones} \\ 2 \text{ tens} + 8 \text{ ones} \\ \hline 1 \text{ ten} + 5 \text{ ones or } 15. \end{array}$$

These examples have been shown to demonstrate how it is possible to help pupils see the "why" of the processes for addition and subtraction of whole numbers. Teachers who use this method help the pupil know much more about arithmetic than Fido, the famous arithmetic dog, who also could put down 3 and carry 1.

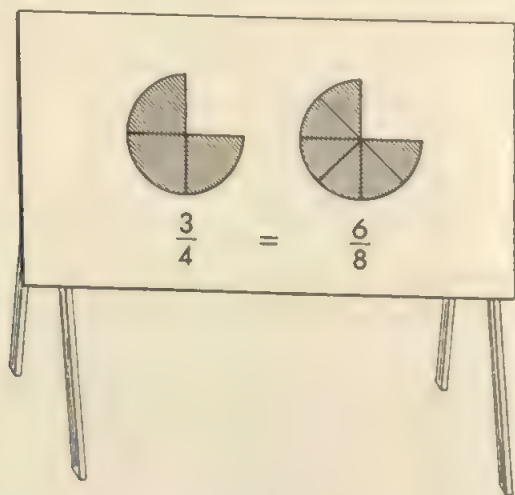
From the Concrete to the Abstract

In the examples in the previous section teaching aids were described for teaching place notation, carrying, and decomposition for subtraction. This kind of teaching, beginning with concrete manipulatory materials and proceeding to abstract thinking, is one of the chief characteristics of the methods used in the meaning theory. The teacher who wants to develop meanings for the pupil begins with familiar things that the pupil can see and handle and then leads him from experiences with things to generalizations. The pupil may first count beans. He counts 3 beans and 2 beans. When he pushes the two piles of beans together he counts 5 beans. A little later, after counting pieces of chalk, pennies, and many other things, he will reach the generalization that 3 of anything and 2 more of the same thing will make 5 things. Later he works simply with numbers and says $3 + 2 = 5$. He has reached the abstract, mathematical level.

If a child is really to learn arithmetic and use it skillfully he

finally has to be able to think with numbers at the abstract level. The power of mathematics derives from the fact that it is abstract. Because it is abstract it may be applied usefully in a great variety of concrete situations. It is important that concrete materials be used to give the pupil the meaningful experience he needs to reach the abstract level of thinking.

Although the general procedure of concrete-to-abstract is useful with pupils of all levels of ability in arithmetic, the time spent on concrete materials varies greatly with the different levels of ability. One pupil may need to count beans for a long time compared to another pupil. One pupil may need only one example of actual bundles of ten splints to help him grasp the meaning of decomposition in subtraction, while another pupil may need several examples. Some pupils may be able to reason out decomposition in subtraction entirely in the abstract, and may be bored with any attempt to play with sticks.

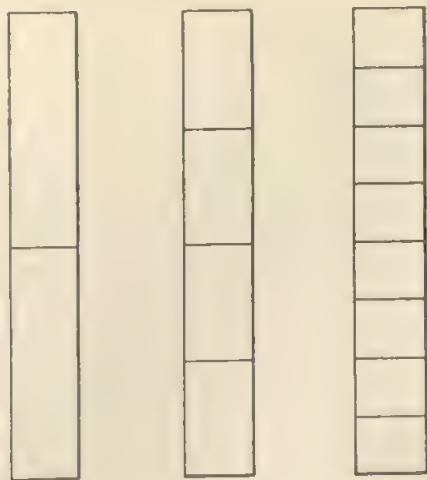


The writer has known pupils who have trouble understanding the relation between the cubic foot and the cubic yard, that a volume of 27 cubic feet is the same as a volume of 1 cubic yard. Others grasp it very readily by watching the teacher make some motions with her fingers in the air showing that 1 cubic yard is 3

feet long, 3 feet wide, and 3 feet high. A brief visualization of one layer of 9 cubes plus two more layers of 9 cubes each was all that was needed.

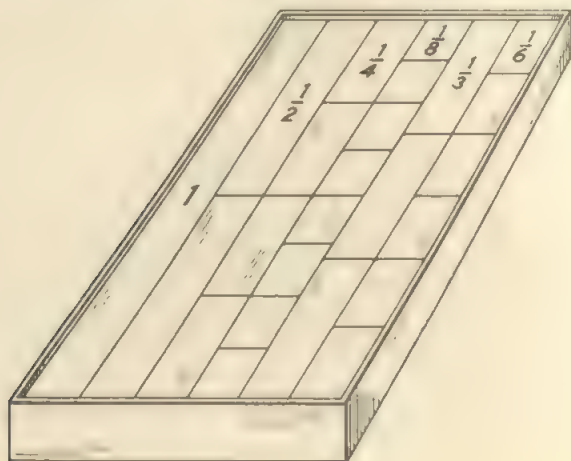
One pupil, however, made this statement, "I just didn't feel good about knowing there were 27 cubic feet in one cubic yard until I made 27 little cubes out of paper and stacked them into one larger cube."

One example of the principle of teaching from the concrete to the abstract is a lesson on the meaning of equivalent fractions. Teachers use a great variety of teaching aids to help the pupil know that $1/2 = 2/4$, $3/4 = 6/8$, $2/3 = 4/6$, and other equivalent fractions. One very helpful device, shown on the opposite page, is a flannel board on which can be placed sectors of circles made of construction paper that show these fractions. Some teachers pass out scissors and paper picnic plates. The pupils can cut "pieces of pie" from these picnic plates and show the relationships by fitting the pieces together on their desks.



Another device teachers use to help go from the concrete to the abstract with fractions is a collection of strips of paper of the same length. By drawing, comparing, measuring, and folding the pupils can demonstrate the relationships between fractions.

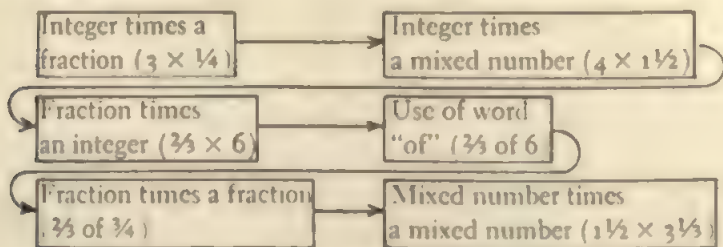
Some teachers find a fraction board using sticks of wood that the pupils can manipulate very helpful. One is shown here.



From the Simple to the Complex

Proceeding from the simple to the complex seems such an obvious part of good teaching that it should hardly be necessary to discuss it in a chapter such as this. However, in a program of meaningful teaching this principle is so important that some examples utilizing this principle will be given.

A good example of how a teacher used this principle is this flow chart which he planned before teaching a unit on multiplication of fractions.

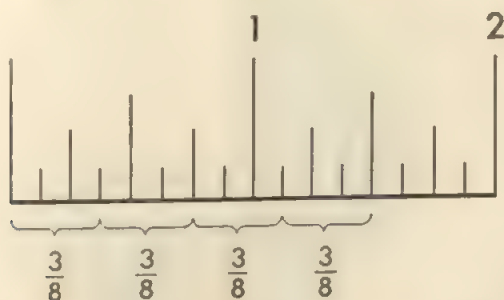


The teacher planned this sequence of steps using several principles of learning: not only "from the simple to the complex," but

also "from the concrete to the abstract," and "from the familiar to the unfamiliar." The teacher started with a problem based on what the pupils already knew and led them to new material. He started with a problem he could demonstrate with concrete examples and led them to the later steps in the flow chart which are difficult to demonstrate concretely. He started with simple problems such as $3 \times 1/4$ and led the pupils to complex problems such as $2\frac{7}{8} \times 5\%$.

Let us look at this example in greater detail. Why was $3 \times 1/4$ chosen first?

The teacher chose this example because the pupils were already familiar with multiplication of whole numbers and addition of fractions. They knew that 3×4 means three 4's or $4 + 4 + 4$. What, then, does $3 \times 1/4$ mean? Would it not mean $1/4 + 1/4 + 1/4$ or three $1/4$'s? The pupil is on familiar grounds. He readily understands that $3 \times 1/4 = 1/4 + 1/4 + 1/4 = 3/4$. The pupil can draw diagrams using the ruler idea to show these kinds of problems. For example, the pupil can show $4 \times 3/8$ by this drawing.



From the drawing he can count and determine the answer to be $1\frac{1}{2}$. He can find this answer also by adding: $4 \times 3/8 = 3/8 + 3/8 + 3/8 + 3/8 = 12/8 = 1\frac{1}{2}$. The pupil is working with the familiar. He can see his work in the concrete.

There is very little difficulty in going on from there to the slightly more complex problems such as $4 \times 1\frac{2}{4}$, a whole number multiplied by a mixed number. The procedures used for a whole number are still applicable.

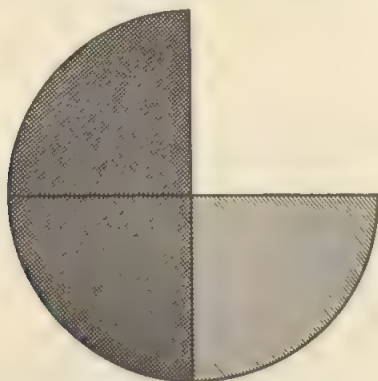
The next step is considerably more difficult. How can $1/2 \times 3$ be shown? $3 \times 1/2$ means "use $1/2$ as an addend 3 times." How can one use 3 as addend $1/2$ times? This is a new situation. However, the teacher can still go back to the familiar. He says to the children, "Do you remember that $3 \times 4 = 4 \times 3$, $7 \times 6 =$

6×7 ? Do you think $1/2 \times 3$ should equal $3 \times 1/2$?" The children bridge the gap and soon are able to find meaning in examples such as $3/8 \times 4$, $1\frac{1}{2} \times 3$, and $2/3 \times 5$.

At about this time it becomes useful, in order to be ready for future steps, to introduce examples using the word "of." What is $2/3$ of 6? $2/3$ of 6 is easy to draw or demonstrate with objects. Does $2/3$ of 6 give the same answer as $2/3 \times 6$? Pupils know how to solve $2/3 \times 6$ from the previous step.

After some experiences with these kinds of problems the pupils generalize the principle that a fraction of a whole number gives the same result as the fraction *times* the whole number.

Now it is possible to base problems like $2/3 \times 3/4$ on previous knowledge by generalizing that if $2/3 \times 6 = 2/3$ of 6 then $2/3 \times 3/4$ should be the same as $2/3$ of $3/4$. Since $2/3$ of $3/4 = 1/2$, which can be illustrated as shown here, then $2/3 \times 3/4$ should equal $1/2$.



Through several experiences of this kind the pupils can be led to the most abstract level yet, that $2/3 \times 3/4 = \frac{2 \times 3}{3 \times 4}$. That is, in order to multiply two fractions, multiply the numerators to find the numerator of the product, and multiply the denominators to find the denominator of the product.

With this generalization the pupil is in a position to tackle complex problems like $2\frac{1}{2} \times 3\frac{1}{5}$, after he realizes that $2\frac{1}{2}$ can

be written as $5/2$ and $3-1/5$ as $16/5$. Thus, $2-1/2 \times 3-1/5$ becomes $5/2 \times 16/5$, which the pupil knows how to do.

The flow chart leading to the complex, the abstract, the unfamiliar, basing new steps on old familiar ideas, has thus led the pupil to see reasons why he carries out certain processes the way he does.

Discovery

Another characteristic of the meaning theory of teaching arithmetic is the emphasis that is placed upon discovery. The pupil is led to discover for himself much more than he would under a drill or tell-and-do method of teaching. Under a tell-and-do method of teaching the teacher tells the pupils how to do something, gives the pupil an example, and then assigns some problems like the example. In many cases the pupil could, with proper guidance, have had the joy of discovering the idea or method for himself.

The reader has probably noted this discovery feature in some of the preceding sections. For example, it was pointed out that it might be possible to help a pupil discover the decomposition method of subtraction by use of bundles of splints.

The method of teaching that uses discovery is for the most part an inductive method. Through several experiences the learner jumps to some conclusions—makes tentative hypotheses—which he proceeds to test.

One example of a problem situation giving the pupil a chance to discover a general procedure for himself is that of adding fractions with unlike denominators. After the pupils have had experience in adding fractions with like denominators, the teacher might suggest the problems $1/2 + 1/4$, $1/3 + 1/6$, $3/4 + 1/8$, $2/5 + 3/10$, and other similar ones. The teacher might say, "I have never shown you how to solve these problems. Try to solve them any way you can. You can draw diagrams, use your ruler, or do anything that will help you solve them."

Here the pupil is faced with a real problem. He has to find his own method of solution. In the process he may come up with some ridiculous answers which he can be encouraged to test by means of drawings.

After the pupils spend some time working on this problem, the teacher may have the class discuss how they were able to get answers and why they know their answers are right. As a result of this experience some of the pupils will have discovered for themselves that these problems are easy if the fractions are first changed to fractions with common denominators.

The pupils have been involved in a true problem-solving experience. Some of them will have discovered how to solve a problem of this type. The joy of creation, discovery, success is theirs. It is not unlike the joy that mathematicians and scientists get when they make discoveries.

Of course, there are many things in arithmetic that are not discoverable in the above sense. For example, the symbol used to mean multiplication in arithmetic is \times . The pupils have to be told this. The answer to a division problem is called the "quotient." This they cannot discover. A number written as 3% means $3/100$. This is a definition of the symbol %. The pupil should not waste time trying to discover these kinds of arithmetical facts, he should be told. However, the arithmetic program has scores of topics where discovery is highly desirable.

A discovery lesson that teachers like to use concerns the sum of the angles of a triangle. The teacher will direct each pupil to draw a triangle, any shape or size. Now each pupil measures the three angles of his triangle and finds the sum. The sums are reported to a secretary who records them at the blackboard.

"Does anyone see anything interesting in the figures we have on the blackboard?" asks the teacher.

"Do you feel sure that the sum of the angles of a triangle is 180° ? Try it again. Draw another triangle on your paper. Make it a different shape and size than the one you had before. Do you still believe the sum is 180° ?"

Proof

Another important characteristic of the meaning-theory method of teaching arithmetic is the emphasis upon proof. The word proof is not used here in the usual mathematical meaning of the word, although the pupil may use a deductive chain to arrive at a conclusion or proof of some fact.

In the meaning theory of teaching the "why" is important. For this reason the teacher challenges the pupil, and pupils challenge each other to "prove it."

Bill asks, "How do you know $8 \times 9 = 72$?"

"That's easy," replies Tom, "I know $9 \times 9 = 81$, and $81 - 9 = 72$."

"How do you know the decimal point in the answer to this problem is properly placed?" asks Mary.

$$\begin{array}{r} 5.3 \\ \times .4 \\ \hline 2.12 \end{array}$$

Jane says, "I feel sure it is right because 5.3 is about the same as 5 and .4 is a little less than .5. So the answer should be a little less than half of 5, or 2.5."

The teacher asks the class, "How many ways can you show me that the answer to this division problem is correct?"

$$\begin{array}{r} 1.5 \\ .3 \overline{) 0.45} \end{array}$$

Mary replies, "I used fractions. I said $.45 = 45/100$ and $.3 = 3/10$, so $.45 \div .3$ is the same as $45/100 \div 3/10$."

$$\frac{45}{100} \div \frac{3}{10} = \frac{45}{100} \times \frac{10}{3} = \frac{15}{10} = 1\frac{1}{2}.$$

The answer 1.5 is correct."

Tom says, "I know that if I multiply the dividend and divisor by the same number the quotient will not be changed. When I multiply $.3 \times 10$ I get 3. When I multiply $.45 \times 10$ I get 4.5. So $.45 \div .3$ is the same as $4.5 \div 3$. Now there are three 1.5's in 4.5 so the answer is 1.5."

Joe says, "All I did was multiply the quotient by the divisor. Since $.3 \times 1.5 = .45$ I know the answer is correct."

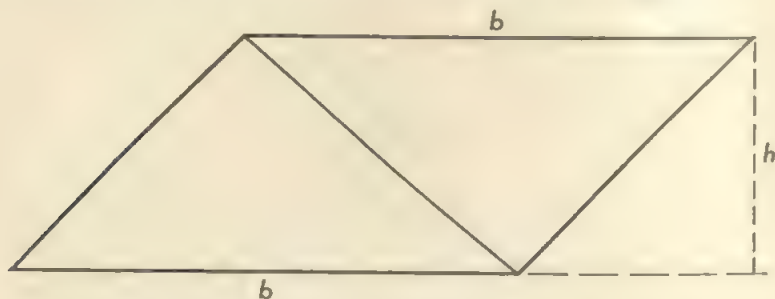
Grace says, "If I subtract .3 from .45 I get .15 left. This means .45 has one .3 in it and half of another. So I know $.45 \div .3 = 1.5$."

In these situations the pupils are demonstrating that they are aware of the relations between the meaning of division of decimals and several other ideas. They have become accustomed to an instruction program in arithmetic where they have been required to "prove it."

At the higher levels in the elementary school a pupil might be

asked to show why the area of a triangle is equal to one half the base times the height.

The pupil might say, "I know the area of a parallelogram is equal to the base times the height. The triangle is just half of a parallelogram so the area of the triangle is just half as great."



Of course, this is not a mathematical proof, although the pupil has shown the outline such a proof could take. For this pupil, however, the experience of seeing "why," for a triangle, $A = \frac{1}{2}bh$ is a valuable one.

Motivation

Good teachers pay careful attention to the child's motivation. They understand that a very necessary part of their job is to help the pupils select worthwhile goals of learning. In this respect teaching arithmetic by the meaning theory is no different from teaching children generally. There are some special problems of motivation, however, that need to be considered in relation to arithmetic teaching.

Several aspects of the meaning approach of teaching arithmetic are concerned with motivation. For example, the emphasis upon discovery and creation is interest provoking for many pupils. They become interested in arithmetic for its own sake in the same way that a mathematician does.

For some the desire to learn arithmetic comes about because pupils can see the relationship between what they are learning in school and some immediate or future need in work or present need in play.

An arithmetic teacher asked her class one day what the meaning of the symbol "%" was. She asked the pupils where they had seen this symbol. After discussing it briefly the class decided they would be on the look-out for this symbol wherever they went. Some agreed to bring examples of its use in clippings from newspapers and magazines. Some of the pupils promised to look for the symbol in stores and on package labels. The next day the pupils reported what they had found. The teacher put the clippings on the bulletin board all round the room. Needless to say, these pupils saw some relationship between the unit on percentage they then started and their real life needs.

Drill

One aspect of motivation in arithmetic teaching is related to the need for drill. The good teacher will help the pupils see the need for drill. Some teachers plan with their pupils how they can best drill. One develops the need for drill in this manner:

After the pupils have had considerable experience with problems involving multiplication, and the pupils are very well acquainted with the meaning of multiplication, he gives a test. This test is rather long, especially for the pupil who does not "know" the multiplication facts but must derive them. After the teacher stops the test, he has a discussion with the class. "Some pupils were able to get many more problems done than others: Why?"

Bill says, "The reason I could get so many was that I just knew the answers. In the work we had been doing in multiplication I guess I used some of the facts so much I just knew them."

After some discussion the class decides that just knowing the multiplication facts from memory is a good thing. They decide that they should develop some plans for learning them. In the discussion that follows the pupils discuss the use of flash cards, drill boards, drill problems in their textbook, and other drill devices.

These pupils see the need for drill and help plan how to get the drill they need.

Although the meaning theory of arithmetic has been contrasted to the drill theory, this does not mean that drill should not be used. Drill may be used to help the pupil gain in efficiency, accuracy, and speed. In addition, a pupil who works some drill exercises and at the same time asks himself questions about shortcuts, different

methods of working the problems, and similar problems, may as a result of working the drill exercises develop a new idea or a better understanding of an old one. However, repetition in itself does not improve understanding. One of the important principles of the meaning theory of teaching arithmetic is that drill follows understanding.

Relation to Activity Units

Learning arithmetic is much more than learning paper-and-pencil methods of computation. In a very real sense, as was pointed out earlier, arithmetic is an extension of language. Through the symbols and concepts of the language of arithmetic it is possible to convey important quantitative ideas.

A teacher who is teaching by using activity units in which the studies are integrated about some unifying topic, will find it easy to include ideas and skills of arithmetic in the unit, when arithmetic is thought of in its broader sense. The arithmetic will add meaning to various aspects of the activity unit and the various aspects of the activity unit will add meaning to the arithmetic.

One teacher planned with her class to use two or three weeks in the study of "The Food We Eat." This unit would give the children an opportunity to get practice in reading and in learning about producing food on the farm and processing food for sale. Some field trips were taken to the bakery, the dairy, and finally to the supermarket grocery store. The children learned some science and had experience in writing, spelling, art, and arithmetic.

The teacher was surprised at the number of opportunities he found for teaching arithmetic in this unit on food. The children had considerable experience with quarts, pints, gallons, pounds, ounces, acres, bushels, pecks. When the children were studying egg production the teacher had each of the children bring an egg carton from home. Many numbers concepts were learned or emphasized. For example, they saw with the help of the carton that there are 12 things in a dozen. The teacher helped the class see that four rows of 3 eggs make 12 eggs and three rows of 4 eggs make 12 eggs. He wanted to get the children ready for the study of fractions, so they talked about $1/2$ dozen eggs, $1/4$ dozen, and $1/3$ dozen. He also posed such problems as: "Bill has two eggs for breakfast every morning. How many mornings will a dozen eggs last?" "Eggs are



A trip to a firehouse is a favorite field trip in social-studies classes. The visit not only provides an opportunity to learn about reliable community resources, but also teaches a lesson about the importance of fire prevention. A trip such as this one, however, is only as valuable as the preparation before the trip and the discussion after the return. What can the teacher herself learn about the school community as she accompanies the children on these field trips, and how can she use her information? (Photo: Oak Park, Illinois, Elementary Schools.)



Arithmetic offers the thrill of discovery to this boy who is working out a problem on the board, talking about the process as he goes along. When he comes to a new or hard step, his teacher is ready to give an explanation to help him understand the problem. He can see his mistakes, and also see the finished problem which he has "solved" by himself. Drill, textbook work, and playing store are also useful, but they must contribute to reasoning skills and mathematical development. (Photo: Dolores Ahrens.)

selling for 60¢ a dozen. How much does one egg cost?" During the study of pints, quarts, pecks, and bushels, the teacher also did a lot to introduce the class to the meaning of fractions.

Considerable evidence, however, supports the hypothesis that it is not possible to teach arithmetic entirely as an incidental part of an activity unit. In other words, it is important to have a planned program and sequence for arithmetic instruction. As we pointed out earlier, knowledge of the system of arithmetic is an indispensable goal of meaningful teaching. "Arithmetic is conceived as a closely knit system of understandable ideas, principles, and processes, and an important test of arithmetical learning is an intelligent grasp upon number relations."³

Arithmetic is a cumulative subject, in which understanding of new ideas can come about only if the foundation ideas are known. A pupil cannot learn methods of long division until he knows multiplication and subtraction. The flow of ideas through a closely knit system is necessary for meaningful learning of arithmetic. Several examples in this chapter have demonstrated that knowledge of the structure of relationships of ideas is the heart of meaning in arithmetic.

The conclusion to be drawn from all this is that if the *system* of arithmetic is to be studied it is necessary to have time in the classroom for the direct study of the subject. The amount of time that should be or must be devoted to the special study of arithmetic depends on many factors. The point here is rather that *some* time must be devoted it.

In an activity program it is possible and desirable for the teacher to develop readiness for a systematic study of some idea or process of arithmetic that will come later. For example, long before a pupil studies multiplication as such he will be counting by 2's, 5's, and 10's. He will be saying, "I know that two 8's are 16." Or the pupils may find they need three sheets of paper with 6 squares on each sheet or 18 squares. They do not think " $6 \times 3 = 18$ " or " $18 \div 6 = 3$." They probably think " $6 + 6 + 6 = 18$," but they are using expressions like "three 6's are 18," which very easily lead to formal multiplication.

³ *Ibid.*

Expected Outcomes of a Typical Arithmetic Program in the Elementary School

Grade Placement of Topics

It is difficult, if not impossible, to be specific in stating what topics in arithmetic should be studied by all pupils at any one grade level. So much depends upon the readiness, motivation, and previous instruction of the pupils. Some children can learn arithmetic easily and enjoy arithmetic for its own sake. These children will probably be held back by a specific grade-level assignment of topics. Other children will need to spend much more time on topics than the grade-level listing calls for.

State departments of education, city school systems, and textbook publishers do publish detailed courses of study, however, that can be a valuable guide to the teacher. Copies of these courses of study can be used to help plan the arithmetic experiences of his own class.

What can reasonably be expected of many children at the different grade levels? The following descriptions of learning outcomes are based on the experience of many teachers, but are not to be considered as necessarily best for any particular child.

FIRST GRADE

The first year of school is a time when the teacher can help the pupils get a very important ability fundamental to all later learning of arithmetic, namely, counting. Many teachers try to help the pupils learn to count to one hundred—and higher if needed—by 1's, 10's, 5's, and 2's, by the end of grade one.

The children learn to read and write the numbers and learn the meaning of place notation. For example, the pupils learn that 43 means four tens and three ones.

The children have a great amount of experience in grouping objects, counting to find how many are in the total group. They thus get considerable experience in informal addition and subtraction with small numbers.

They learn to use the clock and the calendar, and learn to

count coins (pennies, nickels, dimes, and sometimes quarters and half-dollars).

Many children learn the meaning of $1/2$, $1/3$, and $1/4$ through use, although no systematic study of fractions is usually given.

SECOND GRADE

In many schools the pupils learn several addition and subtraction facts with small numbers, such as $2 + 3 = 5$, $3 + 3 = 6$; numbers whose sum is less than 10. The students' knowledge of the tens' system of writing numbers has increased, and they can count, read, and write numbers larger than 100. Incidental learning about fractions has enabled many pupils to know the meaning of $1/2$, $1/3$, and $1/4$. They learn more about the clock, the calendar, and money, and are probably acquainted with several units of measure by this time, for example: feet, yards, pints, quarts, gallons, pounds, dozens, and degrees of temperature. Through the grouping of objects the pupils have learned many of the concepts of multiplication and division, but have probably not formalized their learning nor acquired the vocabulary.

THIRD GRADE

By the time the pupils have finished the third grade many of them are able to add and subtract with three-digit numbers involving carrying and borrowing. They will also know the meanings of the terms *multiply*, *product*, *divide*, *quotient*, and others related to multiplication and division. The children probably do not have ready recall for the multiplication tables—except perhaps for the 2's, 3's, and 5's—but will be able to figure out from addition the answer to such questions as "What are five 6's?" Some pupils will be able to do problems like

$$\begin{array}{r} 243 \text{ and } 3 \overline{)153} \\ \times 2 \\ \hline \end{array}$$

FOURTH GRADE

By the end of the fourth grade the pupils are able to add and subtract large numbers and dollars and cents. They are also able to add a column of several numbers.

Many pupils have an understanding of the meaning of multiplication with integers and have ready recall of the multiplication tables through the 10's. They are able to solve multiplication problems with one-digit and sometimes with two digit multipliers.

Many pupils are able to solve division problems with one digit divisors. Some pupils are able to use two-digit divisors, with or without remainders and including zero difficulties.

In the fourth grade much attention is usually given to helping the pupils know the meaning of fractions and how to read and write them. Very little or no attention is given to adding, subtracting, multiplying, or dividing fractions, or to decimals, except as an incidental part of work with dollars and cents.

FIFTH AND SIXTH GRADES

In addition to improvement in understanding of and skill with fundamental operations with integers, the new work is primarily with fractions and decimals. In many schools the pupils learn the meaning of fractions, and the vocabulary connected with them, and have considerable experience in adding and subtracting fractions and mixed numbers. This experience is with fractions with the same denominator and with different denominators.

In the sixth grade the work with fractions is continued, and the pupils learn to multiply and divide fractions and mixed numbers.

Some schools teach an introduction to the meaning of decimals in the fifth grade and do some adding and subtracting of decimals. In the sixth grade the pupils extend their learning to multiplication and division with decimals.

As in other grades, attention is given to reviewing work of previous grades, teaching simple geometry facts, and teaching about measurement.

The teachers help the pupils develop problem-solving abilities in connection with real problems arising in the classroom and with word problems in the textbook.

SEVENTH AND EIGHTH GRADES

In the seventh and eighth grades the pupils review the arithmetic of the previous grades and extend their learning to include percentages. In addition, they learn a good deal of geometry: the

meaning of angles, triangles, and other figures. They learn how to find the areas of circles, triangles, rectangles, parallelograms, and trapezoids and the volumes of cylinders, rectangular solids, cones, and spheres.

The pupils spend a lot of time during the seventh and eighth grades studying the application of arithmetic to business, industry, the home, transportation, and communication.

By the time many pupils have finished the eighth grade they will be very efficient in the fundamental operations of arithmetic with integers, fractions, decimals, and percentages. They will know a considerable amount about the simple facts of geometry, and how to find areas and volumes of common geometric figures and solids. They will recognize that mathematics is a necessary learning if one is to solve the ordinary problems of living in a technological society. They will also have an appreciation of the relationship of mathematics to business, industry, science, the home, and nearly all aspects of life.

Many of the pupils will recognize mathematics as a subject filled with opportunities for fun, adventure, and discovery.

DISCUSSION QUESTIONS

1. Some famous mathematicians have been very interested in music and art. Are these interests and the interest in mathematics at all compatible?
2. Do some children ever enjoy arithmetic for its own sake? What would a teacher do in class that might produce greater enjoyments in arithmetic?
3. Why do some children learn to dislike arithmetic and develop great anxieties toward the subject?
4. Even though teaching by the "drill method" is considered poor practice by many educators it still is used widely in some schools. Why is this true?
5. What are the principal characteristics of the "meaning theory" of teaching arithmetic?
6. What values do pupils get from teaching that leads them to discover for themselves?
7. Does drill have a place in an instruction program using the "meaning theory"? If so, what is this place?

8. Choose some topic for an activity unit and describe how arithmetic instruction could be integrated with this unit.
9. What modifications should be made in an arithmetic instruction program for the very able pupils?
10. What are some procedures a teacher might use to stimulate interest in the study of arithmetic?
11. Some teachers use games and contests frequently in their arithmetic classes. Defend or criticize such practice.
12. Miss Thomas, a fifth-grade teacher, objected to the principal of the school because Miss Kelley, the fourth-grade teacher, was teaching topics from fifth-grade arithmetic in her fourth-grade class. What action should the principal take?

SUGGESTED READINGS

- Arithmetic in General Education.* Washington, D. C.: Sixteenth Yearbook of National Council of Teachers of Mathematics, 1941. This is a yearbook on the teaching of arithmetic with chapters contributed by twelve well-known authors in the field of arithmetic teaching. Problems of instruction are considered from the kindergarten level to the problems of arithmetic in high school. Other chapters deal with enrichment, drill, and evaluation. The teacher of arithmetic will find this a helpful book.
- Brueckner, Leo J., and Grossmickle, Foster E., *Making Arithmetic Meaningful.* Chicago, Ill.: The John C. Winston Company, 1953. This is a general textbook on the teaching of arithmetic in the elementary schools. The reader will find much help in this book on teaching devices, teaching procedures, and suggested outcomes of learning arithmetic at different levels.
- Clark, John R., and Eads, Laura, *Guiding Arithmetic Learning.* Yonkers on Hudson, N. Y.: World Book Co., 1954. A general textbook on the teaching of arithmetic in the elementary schools. Specific suggestions for teaching procedures are made. The book is also well illustrated with photographs and drawings of teaching aids, classroom seating arrangements, and bulletin board displays.
- Gleason, Vincent J., and Hummelt, C. W., *What Does Research Say About Arithmetic?* Washington 6, D. C.: Association for Supervision and Curriculum Development, N.E.A., 1952. This pamphlet lists 125 research studies on the teaching of arithmetic. The authors have not discussed these research writings as such, but have analyzed them to see what they have to offer concerning certain important questions in the teaching of arithmetic. They have discussed

such questions as: (1) Should we teach children to use crutches? (2) Should children memorize the multiplication tables? (3) What is the place of mental arithmetic? (4) What do we know about readiness for arithmetic?

Larsen, Harold D., *Arithmetic for Colleges*. New York, N. Y.: The Macmillan Co., 1958. This is a textbook on arithmetic, not the teaching of arithmetic. It is a valuable book for the elementary-school teacher's library because it contains a large number of ideas about arithmetic, not usually studied in the standard courses of study. The history of the development of numerals, computation processes, and interesting problems are presented. Short-cuts for mental computation, and other enrichment topics for elementary school arithmetic are presented. The teacher will find this a valuable source book for topics on arithmetic to present to the fast learner in arithmetic.

Spitzer, H. F., *The Teaching of Arithmetic* (ed. 2). Boston, Mass.: Houghton Mifflin Co., 1954. In this textbook Professor Spitzer has directed his efforts to help the beginning teacher understand his philosophy of teaching arithmetic which is an inductive-discovery-problem solving-meaning theory philosophy. The beginning teacher will find specific suggestions of ways in which "creative arithmetic" can be taught. Direct help is also given in teaching several of the topics of the elementary arithmetic program.

Swain, Robert L., *Understanding Arithmetic*. New York, N. Y.: Rinehart and Company, Inc., 1957. In addition to many interesting topics on arithmetic similar to that found in other books, this textbook also has considerable material on the topics of sets, language, and logic. Important fundamental properties such as the distributive, associative, and commutative properties are emphasized.

The Teaching of Arithmetic. Chicago, Ill.: Fifteenth Yearbook of the National Society for the Study of Education, Part II, University of Chicago Press, 1951. Fourteen specialists in the elementary school and in the teaching of arithmetic contributed chapters to this valuable book on the teaching of arithmetic. Teachers of arithmetic will find chapters dealing with the problems of teaching arithmetic at their grade level. The reading of this book would help the teacher better understand the psychological and philosophical background for the methods of teaching arithmetic. Practical suggestions for classroom teaching procedures are also suggested.

Teaching Science

The children in Mr. Reynolds' fifth-grade class came to school Monday morning excited, tense—and a little scared. As each child walked in, he went immediately to one of the many groups that were springing up spontaneously around the room. The talk was intense and animated. Each child wanted to tell his own story. Everyone seemed to have a different version of what happened. Since the children were so excited, Mr. Reynolds decided to let them talk in these groups for a few minutes before starting the regular plan for the day.

Severe storms had ripped through the area over the week-end. Sixteen people had been injured by flying objects. Store windows had been broken in the downtown business district. Basements were flooded all over town. Power had been cut off in several sections. Mr. Reynolds thought that he would let them talk together for a few minutes since the events of the week-end seemed to be of such high interest to all the children in the class.

As Mr. Reynolds watched the youngsters in their small groups, several thoughts about the current activities of the class flashed through his mind. For the past two weeks they had been studying Canada. They had been doing research on how Canadians make a living, the geographical features of Canada, the relations between Canada and the United States, the languages spoken in different sections of the country, and the structure of the Canadian government. The social-studies curriculum guide developed by a staff committee three years ago suggested that fifth graders study some aspect of life in the Western Hemisphere. And Mr. Reynolds' class had been working on Canada. They had become interested in Canada while reading about the construction of a radar defense line near the Arctic circle.

As he watched the children, Mr. Reynolds began to wonder if a

study of the causes of storms and how they affect people might not be a valuable area in which the class might work for the next few weeks. Obviously, the children were interested in storms. One had only to look at them talking! But the children were not only interested in the most recent storms. They also wanted to know what caused these storms. Several wind and rain storms rip through the state every year. Since the state was located in a belt of periodic weather turbulence, storms were a persistent problem. It would help the youngsters if they knew—to name just a few relevant concepts—what caused these storms, how they could be predicted, how they could protect themselves, and how the storms affected the economy of the state. Severe weather conditions certainly seemed to Mr. Reynolds to be a valuable subject for the class to investigate. Storms were a problem that had great significance for the entire community.

But what about the study of Canada? Would the curriculum become too fragmented if they suddenly dropped the study of Canada and switched to storms? Would not the continuity of their study be disrupted by postponing the work on Canada for so long a time? Or could the class work on certain aspects of their study of Canada at the same time that they tried to find out more about storms? Mr. Reynolds continued to think about the merits of studying storms as he watched the children in their animated discussions. All these ideas were flashing through his mind in the three or four minutes it took the children to remove their coats to get ready for the day's work.

Mr. Reynolds then thought about the curriculum guide developed in the school system for the fifth grade. He remembered that several broad science areas were suggested, among them the area of weather. He remembered, too, from his undergraduate college class in elementary education, that there was a considerable amount of research indicating that children can have profitable science experiences at every grade level in any broad area of science: living things, chemistry, electricity, weather, geology, astronomy.¹ The findings of the research in science education made it clear that the limiting factor in children's experiences was the complexity of the science concepts involved rather than the broad area of science content. That is, children in the fifth grade could study weather and so could second graders. But the second graders would investigate simpler concepts.

He remembered, too, that fifth-grade children could carry out many activities of an experimental nature on the subject of weather. If they got into a study of storms, the boys and girls could make

¹ Milton O. Pella, "Development of Concepts in Elementary Science." Madison, Wis.: Unpublished Doctoral Dissertation, University of Wisconsin, 1948.

weather instruments and perform several experiments to understand the water cycle more fully—along with many other activities related to air currents and weather conditions. In the process, they would learn more about the problem-solving process so often stressed in his college classes.

The problem of storms seemed to interest the children. And Mr. Reynolds satisfied himself that a study of storms fitted the broad curriculum guide in use in the school system. He also felt that the class safely could postpone some of the topics in their study of Canada and pick them up later on. But at the same time, in order to understand storms in the United States, they would have to know about weather conditions in Canada and the geography of Canada. And since the class had already started their research on Canada, they had a good idea of the direction in which they were moving. Mr. Reynolds felt that it would not be unduly disruptive to limit the work on Canada for a time. Storms were of immediate concern to the youngsters.

The next problem that flashed through Mr. Reynolds' mind was the number and variety of resources available for the children's use in studying about storms. If they were to embark on a study of weather, Mr. Reynolds knew that it was essential to have several textbooks, tradebooks, encyclopedias, and audio-visual materials which were appropriate for his students' use. He knew, too, that Johnny and Rita were reading at a third-grade level while Fred and Celia were reading at a seventh-grade level. Would reading materials be available for each of these youngsters so that they could contribute constructively to the class research efforts?

Mr. Reynolds satisfied himself on the point of the available resources when he recalled that each of the science textbooks series in the bookroom contained information about each of the broad science areas, including weather. And he remembered also that research had indicated that some textbook authors stressed weather in, say, the second, third, fifth, and seventh grades while others stressed weather in the third, fifth, sixth, and eighth grades. He knew that he would have reading material available at the reading level of each child in his class.

He knew, too, that there were several excellent tradebooks about weather by some of the best authors of children's science books. By using several texts as well as tradebooks, there would be considerable variety in the science content and activities studied by the children as well as variety in the levels at which they did their research. He thought that there were probably film strips and films on weather for elementary-school children, too. In short, there seemed to be strong reasons and sufficient materials available for an intensive study of storms and other related weather phenomena. At least Mr. Rey-

nolds thought it worthwhile to discuss the possibilities of developing a unit on weather with the class.

"Let's start our day's work now. As you know, we've got a busy schedule and some important decisions to make.

"I notice that you seem very much concerned, as you should be, about the storms we had over the weekend. Perhaps, if you people think it's important enough . . ."

Thus Mr. Reynolds started to involve the members of the class in a study of weather. He had satisfied himself on five major points:

1. The children had a strong interest in finding out about storms.
2. It was important in that particular community to know about forecasting storms and protecting life and property during storms.
3. Varied resources (written and equipment) were available to help the children answer their questions about storms.
4. A study of storms and weather was consistent with the curriculum structure recommended for the school system.
5. A study of storms was consistent with Mr. Reynolds' broad planning for the year.

When Mr. Reynolds broached the subject with them, the class quickly affirmed their interest in finding out about storms. They thought they could postpone part of their work on Canada without much difficulty. However, Judy reminded the class that Larry's mother, who had been born in Canada and had lived there for seventeen years, had agreed to come to school on Thursday morning to answer some questions the children had raised previously. The class still wanted to talk with Larry's mother. But they thought they were already well prepared for Thursday's meeting since they had done considerable research on Canada. They didn't foresee any difficulty in switching their major classroom efforts to the area of weather for the next few weeks. Besides, many of the youngsters felt certain that they could do lots of work on their Canada project during their independent work time in the afternoon.

To start the study of weather, the class had a discussion in which several children described their experiences during the storm. They then decided to collect clippings from local papers and national magazines that told not only about the storm damage but also about forecasting efforts, storms of the past, storm patterns over the years, and all other phases of weather related to the recent storms.

While they collected pertinent clippings, the youngsters also started gathering books that had weather information from the bookroom and the library. In short, before they did any formal planning of their study, they collected resource materials and did some preliminary reading about weather. Each child glanced through

different books and clippings as he became interested in the varied aspects of the subject. When particularly informative clippings were found, they were placed on the bulletin board. Mr. Reynolds assigned no specific reading at this point. By using this approach, the children would have a more complete and varied background of information for their more specific planning to come later.

Mr. Reynolds felt strongly that one major outcome of the study of weather and storms should be the development of the children's ability to solve problems. He knew that they would learn many useful facts about weather in their study. He wanted them, for example, to develop a full understanding of the effect of weather on the activities of people. But he felt that a major purpose of the study should be the further development of children's problem-solving ability.

Elements of Problem-Solving Ability

Problem-solving ability is a complex constellation of factors that has been described in various ways. Nevertheless, there seems to be agreement that the ability encompasses the following elements:

1. Sensing a problem and deciding to find an answer to it;
2. Defining the problem;
3. Identifying the factors bearing on the problem;
4. Gathering pertinent data;
5. Making the best tentative hypotheses as to the solution of the problem;
6. Selecting the most likely hypotheses;
7. Testing the hypotheses;
8. Drawing conclusions;
9. Making inferences based on this conclusion and applying the findings in new situations in which the same factors are operating.

Mr. Reynolds knew that these steps were not a rigid statement of a procedure that every youngster had to follow sequentially in solving a problem. The problem-solving process is a creative one in which each individual uses a procedure that best suits both himself and the problem at hand. Yet a listing of steps gave Mr. Reynolds a guide for recognizing elements of children's behavior that indi-

cated mature problem-solving efforts. He could watch for and encourage their defining the problem carefully, gathering pertinent data and evaluating their sources, formulating likely hypotheses, etc. At the same time he encouraged originality and individuality in each child's responses. By using a problem-solving approach, Mr. Reynolds felt his class would be developing essential skills for further independent study.

Science is more than a body of knowledge. It is also an approach to problems—important problems for which the answers are not immediately available. Development of skill in problem-solving gives the children confidence in their own ability to approach future problem situations in which there are few previously determined answers. Most life situations fall into this category. Problem-solving skill is therefore useful not only for studying about storms; problem-solving skills can be used in many types of situations that the children will face throughout their lives. If children are taught to use these problem-solving skills, they will develop a greater security in coping with today's world, which does not supply pat answers for its new and complex problems.

After the class had done some preliminary reading, they had their first group planning session. Alert to problem-solving possibilities, Mr. Reynolds began by asking the children what they thought were the most important things to discover about storms and the weather. The most effective way to develop problem-solving skills is to start with problems perceived by the children. The youngsters were full of questions:

Chuck: "What times of year do storms hit our town?"

Ted: "Do we get the same kinds of storms as other parts of the country?"

Betty: "How can they tell when storms are coming?"

Mildred: "How much damage is done by storms in our state?"

Don: "Can they control storms somehow?"

In all, the members of the class listed more than thirty questions about storms and weather. Mr. Reynolds wrote them on the blackboard without attempting any deletions at this point. After all the questions were listed on the board, the class was able to see that some questions duplicated others although slightly different words were used. The class eliminated the repetitive questions along with those questions which they considered vague or too far removed from their real concerns. During the planning, Mr. Reynolds in-

cluded three questions of his own. He thought his questions filled a gap in the group's approach to the area that was extremely significant. One of his questions dealt with weather patterns across the entire continent. He knew that these patterns affected the weather in his own state, and since the class did not recognize this fact, he added this question. He also included questions about certain weather instruments the class had never heard of.

When all the questions had been listed, the children were able to see that some were related closely to others. One group of questions seemed to concern weather forecasting. Another group concerned weather instruments. Some questions dealt with the effects of weather on people. In all, there seemed to be five large clusters of questions. The class decided that a separate committee would investigate each of the five general problems. Each problem area seemed to involve as much work as each of the others; so the same number of children worked on each committee. Mr. Reynolds and the class decided on who would work in each of the groups.

By starting the study in the planning session as he did, Mr. Reynolds felt he was giving the youngsters an opportunity to define their problems. But he knew that this one session was not enough to delineate fully the important problem areas. As the children worked, they found that some problems they had listed were too broad and required further delimitation. They discovered that some problems were not stated precisely enough to permit the youngsters to start their research. All through the study they continued to refine and define their problems. Problem-solving is not a simple sequential process. A creative problem-solving approach goes back and forth between the several steps listed on page 00.

For the remainder of the study, the children worked largely in their groups. The group studying weather instruments found in one of their books how to make a simple weather station using inexpensive materials. They made a barometer, a wind vane, and many other devices commonly used in determining weather conditions. They even set up their weather station on the school roof after obtaining the permission of the principal and the school custodian.

The group working on weather forecasting collected weather maps and found out how they are made and used. They learned how weather instruments are employed in the process of making these maps. There was a U.S. Weather Bureau Station in town, and this committee suggested that they arrange for a visit. Later on in the study the arrangements were made and the class took the trip.

Similarly, each committee worked on its own phase of the broad weather problem. In using a committee approach to the study of weather, Mr. Reynolds was careful to arrange for many opportunities for each of the groups to share its ideas with the entire class. Each

group made frequent progress reports on what they planned to do, how they planned to do it, the resources they were using, and the difficulties they were having. By using this method of organization, each class member profited from the work being done in each group. Furthermore, this gave each person an opportunity to make suggestions whenever a particular committee was having difficulty. This procedure also assured that each committee would stick to the point that it would do the job originally set for it by the entire class.

Of course, work on the weather study did not take all the class time. They still spent time on their study of Canada; the class did some arithmetic work on fractions; they had a chance to work on the dioramas they were making on books they had read recently for the Book Week exhibit in the library. The program was a flexible one in which Mr. Reynolds and the class could use the school day as they thought best. On some days they worked for as much as two hours on the weather project; on other days they did nothing on it. At one point during their study of weather, the class was called upon to prepare a play to be given in the school auditorium. For three days, while preparing for the play, they did no work on their weather study.

But finally each group made its completed report. They explained what they had found out. They described the exhibits and experiments they had set up around the room. They told how they got their information. They told of a few cases where they were not able to get the information they wanted. They told of hypotheses they had formulated and tested. Some hypotheses they had tested by simple experimentation. Some they had tested by going to books or adults. And as each committee reported, they put a list on the blackboard of all the things they were supposed to find out. Thus the class was given an opportunity to help the committee evaluate its work. They evaluated it on the basis of how well the committee accomplished their original purposes, how well they used the available resources, the ingenuity they employed in getting answers to their questions, and the clarity of their final report.

Objectives of Elementary Science

The approach used by Mr. Reynolds and his class in studying about weather reflects certain specific objectives for the elementary-school science program. The objectives of science education most highly valued by Mr. Reynolds include these:

1. Development of children's problem-solving ability;
2. Development of children's ability to use scientific facts, concepts, and principles;
3. Development of children's scientific attitudes, e.g., open-mindedness, intellectual honesty, ability to suspend judgment;
4. Development of children's skill in handling science materials—both written and manipulatory.

If you pressed Mr. Reynolds for a longer list of objectives, he could probably give them to you. He thinks, to name but two, that science learnings can help children develop hobby interests and that they can help children to develop appreciations of the work of great scientists. But the four broad objectives listed above play the major role in Mr. Reynolds' thinking about the value of elementary-school science experiences.

To achieve these broad objectives, Mr. Reynolds favors the type of curriculum described above—science in broad, integrated units of work. In these broad units, the children begin with a problem that has significance to them. And they work on solving the problem. In the process, they use content from any subject matter field that will help them solve the problem: social studies, science, health, arithmetic, reading, writing, etc. The children thus see the various content fields not primarily as separate entities, each to be mastered, but they see them as tools and bodies of knowledge to be used to help solve important problems. The usefulness of each field is therefore apparent to the child. Of course, there are some limitations and major difficulties involved in this approach—some of which are discussed on page 60. But Mr. Reynolds still feels that this basic approach to science learnings, using them in broad integrated units of work, best meets the objectives he considers of greatest importance.

Other Methods of Curriculum Organization for Elementary Science

There are several other common types of curriculum organization for science learnings to be found in today's schools besides science in broad, integrated units of work. Each type of organization

has certain inherent values. And, to some extent, each type can be used to help children progress toward the objectives valued by Mr. Reynolds. If the teacher considers problem-solving skill to be important, for example, he can encourage its development in each of the types of curriculum organization described below. There is no need for a teacher to abandon all efforts to help children develop in ways considered most significant merely because he finds himself in a school situation not conducive to the organization of science learnings in broad units.

Here are some other common curriculum patterns for elementary science:

1. Science as a separate subject;
2. Science and health combination;
3. Social studies and science combination;
4. Incidental science learning.

Science as a Separate Subject

The first of these curriculum patterns, science as a separate subject, is found most often in school systems where there is a tendency to organize all content fields into distinct and separate units. Thus, in social studies a group of third-grade youngsters might be finding out about how people earn a living in their town. In arithmetic they might learn about number combinations up to twenty. In science they might be learning what seeds need in order to grow. In such a curriculum organization, the emphasis is placed on the children acquiring a certain predetermined fund of knowledge. The knowledge is distributed among the various subject matter fields and among the various grade levels.

In this type of organization, there is usually less stress on problem-solving ability. Problems tend to be preselected either by the teacher or by the textbook. Research studies in science education indicate that children do not develop as fully in their ability to solve problems in situations where they have only a minor role in determining the problems as they do in classrooms where they have a major role.² Thus, if the development of children's problem-solving

² J. Myron Atkin, "An Analysis of the Development of Elementary School Children in Certain Selected Aspects of Problem-Solving Ability." New York, N. Y.: Unpublished Doctoral Dissertation, New York University, 1956.

ability is considered the major outcome of elementary-school science learnings, the youngsters might be encouraged to help determine the problems they work on—even in an organization in which science is treated as a separate subject.

An advantage of organizing science learnings as a separate subject is that science is assured a place in the education of children. Every major study of children's interests reported since 1939 indicates that the science area is one of the fields of top interest among elementary-school children. At every age through the elementary-school years, children express a strong interest in science topics: animals, stars, rocks and minerals, magnetism, etc. And the interest seems to increase through the years. The more recent studies show even stronger interest in science than do the studies reported earlier. Organizing science learnings as a separate subject assures a place for this area of high interest in the elementary-school program.

Another advantage of science as a separate subject is that the science content can be "logically" organized from kindergarten through all the grades. Thus, younger children are taught science concepts considered least complex. And in each succeeding year, they are taught progressively more complex science concepts. Thus, in grade one the youngsters might be taught that the sun gives light and heat; sunlight is healthful; shadows fall on the west side of objects in the morning and on the east side of objects in the afternoon. In later grades they learn about the movement of the earth around the sun; the relative size of the sun compared to the earth, and the sun's distance from the earth. Still later they are taught what the sun is made of, how scientists study the sun, and how the sun's energy reaches the earth.

These formulations of specific science content for each grade are determined by the collective experiences of many teachers. But the grade-level placement of the various concepts found in the textbook series is not based on definitive research. A glance through each of the elementary science series on the market shows that there is no general agreement among the authors, each of them established

³Herbert Rudman, "Interrelationships Among Various Aspects of Children's Interests and Informational Needs and Expectations of Teachers, Parents, and Librarians," Urbana, Ill.: Unpublished Doctoral Dissertation, University of Illinois, 1954.

authorities in the field, about the science content to be included at any one grade level. There is agreement among the authors, however, on the general science areas to be included in the elementary school, astronomy, geology, chemistry, biology, and physics. Evidence seems to indicate that in each of these five broad science areas, children can understand a range of concepts at each grade level. In using science as a separate subject the selection is influenced primarily by the experience of the adult making this selection—be it the textbook writer, the formulator of the course of study, or the classroom teacher.

Science and Health Combination

The second general method of curriculum organization for elementary science, a science and health combination, is, of course, broader than science as a separate subject. On the assumption that health knowledges are scientifically arrived at in a manner similar to science knowledges, these two areas are treated as a unit. The approach to science learnings is similar to the approach when science is treated as a separate subject. And this approach can stress problem-solving elements or not, depending on how the classroom teacher sees the function of science learnings. However, health learnings are treated entirely differently from the traditional approach to health.

Instead of solely telling the children to eat foods from the Four Food Groups, get a certain number of hours of sleep, exercise regularly, and stay well groomed, health learnings when treated as a part of science tend to stress the reasons for good health practices. Thus the child is not given a set of rules to memorize. Instead he finds out how scientists have arrived at health knowledges. He experiments in class by testing the effect of varied diets on small animals. He does heat experiments to see why certain types of clothing give greater protection from the cold than other types. In short, he arrives at understandings about the health area by an inductive and experimental procedure in the classroom. Such an approach gives greater meaning to facts about health than merely reading a set of rules.

Social Studies and Science Combination

A social studies and science combination, a third general method of curriculum organization for science, has found fairly wide acceptance in recent years. Many schools have a curriculum plan for the elementary-school grades that is basically social-studies oriented. This type of organization gives the child experiences related to home and family life in kindergarten and grade one, the local community in grades two and three, and takes him to the larger world community by grade six. The approach is based on the assumption that a child's social concerns are home-, family-, and school-oriented in the primary grades and more nation- and world-centered in the upper elementary grades.

In a science program that is closely related to social studies, a child may learn about care of household pets and plants in first grade, about how the community obtains water and electricity in third grade, about climatic conditions in the United States in fifth grade, and about raising food under various soil conditions in the sixth grade. These examples are only illustrative of what the science area might look like in a social studies and science combination.

An obvious advantage of this approach is that all science learnings are people-centered. That is, the youngster comes to understand that science is a social tool to be used by people for good or ill. Science itself provides no values. It is only in its use that it becomes socially helpful or harmful.

A possible shortcoming of the social studies and science combination, as far as science learnings are concerned, is that certain areas of science are not closely related to the usual curriculum organization for elementary-school social studies. Thus the entire area of astronomy, a topic of great interest to young people, might be neglected because it is less obviously related to the lives of people than an area such as electricity. In social studies and science combinations the areas of science most closely related to transportation and communication tend to be stressed while most other science areas, however important intellectually, remain in the background.

Incidental Science Learnings

The last of the curriculum patterns mentioned above, incidental science learnings, is widely used at the present time in the primary grades. This method of curriculum organization is based largely on the immediate interests of children. If a youngster is given a new pet turtle by his father and brings it to school, the class may try to find out how to care for turtles, how turtles grow, where turtles are found, and how turtles are important to people. If a new atomic submarine is launched, the class may take the occasion to find out about uses of atomic energy and the structure of matter.

A program based on incidental science learnings has the advantage of meeting the immediate needs and interests of the children. But it also has several limitations. First, it is often fragmented and unorganized. Different science interests arise from day to day, giving little continuity to the program. Secondly, such a program is likely to be based on the interests of the most verbal children. The areas of interest they bring to class may or may not represent an area of concern for the entire group. Thirdly, there is little opportunity for the teacher to assist the children in discovering new science problems in new areas. This method of organization relies almost entirely on the children to be the designers of the science curriculum.

Each of the five general methods of selecting science content and of organizing the program of elementary science learnings briefly described here is found today in many school systems around the country. Combinations of some of these patterns are also found. Thus, a teacher might use a science and health combination as his basic structure, but he might also make provision for incidental learnings—pertinent science interests that arise from time to time. And, as indicated, each curriculum pattern has its strengths as well as its limitations.

Note, however, that in each of the patterns described here, the teacher can make science learnings an activity and experiment-centered curriculum area. Whether a teacher employs a "science in broad, integrated units of work" approach or a "science as a separate

subject" approach, he can arrange for an atmosphere in the classroom that is rich in opportunities for children to try things—to experiment with equipment and materials. He can encourage children to use elements of a problem-solving approach to science learnings with its concomitant accent on children *doing things*. The stress is not necessarily on reading as the sole activity in science in any one of these curriculum patterns. Each of these patterns can stress reading as a tool in formulating and testing hypotheses—as a tool in trying experiments to solve problems. Activities and the development of problem-solving skills can be emphasized in each approach.

Science in Broad, Integrated Units

Although some research indicates that the curriculum pattern utilizing science learnings in broad, integrated units of work is most conducive to the development of children's problem-solving abilities, this approach also has its limitations. There is a body of opinion in the science education field that by the end of seven years of elementary-school science experiences, the children should have some acquaintance with each of the broad science content areas. These areas are listed in several different ways by various authorities. But they all include chemistry, biology, meteorology, astronomy, geology, and physics. Some educators think there should be some method of ensuring experiences in each of these broad content areas for elementary-school children. Conceivably, in a pattern centered on broad, integrated units of work, where the problems emanate from the major problems of the youngsters, a particular youngster might have experiences with electricity in the first grade, again in second, more in third, etc. He might never have experiences with, say, light or heat phenomena.

Those who favor broad, integrated units of work point out that in every facet of children's school experiences, the modern teacher tries to assess the extent of the child's previous experiences. He attempts to place most emphasis on those areas in which the child needs most assistance in further development. If a child needs further drill in computational skills, the teacher helps him get it. If he has excellent understanding of the meaning and use of fractions,

the teacher does not drill the child on fractions endlessly. Similarly, the teacher should try to assess the science background of the child to avoid pointless repetition of things that the child already comprehends.

To give the classroom teacher some guidance in selecting science content areas that are appropriate for children, some school systems employ scope-and-sequence charts of science concepts. These charts indicate science content in each of the broad science areas that might be included in the elementary-school program. They give an indication of the scope of the program through the elementary grades. These charts also list the sequence of science content in progressively more complex concepts. Such a chart might indicate, for example, that the understanding in the area of electricity that certain substances are better conductors than others is a concept that children should learn before they understand that a complete circuit is needed for the flow of electricity. It helps the teacher in planning for science learnings with children, since he can attempt to help the youngsters fill in gaps in their understandings by using the chart as a guide.

But these charts do not attempt to assign science concepts to specific grade levels. They might indicate that in the experience of the chart's authors certain understandings seem to be appropriate for primary grades and others for intermediate grades. But they make no attempt to set a rigid pattern to be blindly followed by the teacher. In indicating appropriate experiences for primary grades, the authors of the charts do not imply that upper-grade children should not learn these concepts if they have not learned them earlier. Scope and sequence charts encourage the use of a variety of science understandings in broad integrated units of work with a minimum of repetition. Here is an example of a small fraction of a scope-and-sequence chart developed in one school system in one area of science:⁴

K-2: Solar System

We see the sun during the day.

We see the stars at night.

Shadows change during the day and during the seasons.

The sun is large.

The earth gets heat and light from the sun.

⁴ Great Neck (N. Y.) Public Schools.

Day and night are caused by the movement of the earth

The sun is very old.

The night sky is different from the day sky.

The moon looks different on different nights

2-4: Solar System

The earth revolves around the sun.

The earth gets only a small amount of the sun's heat and light.

The sun is a star.

The sun has "spots."

The earth's movement and the tilt of the earth's axis cause the change of seasons.

Life on earth would be impossible without the sun.

4-6: Solar System

Nine planets revolve around the sun.

The moon revolves around the earth.

There are many theories of how the solar system was formed.

Tides are caused by the moon and the sun.

Meteors and comets travel in the solar system.

A second major limitation to organizing science learnings in broad units of work is that it lays greatest stress on an objective that is difficult to evaluate. If you are teaching for science facts only, it is relatively easy to judge how well children are acquiring knowledge of those facts. But if greatest emphasis is placed on helping children become better problem solvers, how do you know when they are actually improving in this ability? Various elements of problem-solving skill are listed on page 80. Problem solving is considered vastly important by science educators. Yet the research on how to recognize children's development in each of the various aspects of problem-solving skill is extremely limited. What kinds of hypotheses might be expected of six-year-olds—of ten-year-olds? How can we recognize when a third grader is improving in his ability to define a problem? What behaviors characterize a twelve-year-old's methods of testing hypotheses? A teacher can encourage children to use the various elements of problem-solving skill listed on page 80. But how can he recognize children's development in these skills?

Research in the area of children's problem solving is urgently needed to help teachers achieve this objective of science education more fully. Until such research is published, teachers must rely on their own judgment in this aspect of science learnings. They must

play by car. But there are encouraging signs that research in the problem-solving field is receiving greater attention. It is safe to say that more and more information in this area will be made available to classroom teachers in the years to come.

Science Materials

Since an ongoing science program in the elementary grades is characterized to a major extent by children's experimentation, it follows that a certain amount of science equipment must be made available in the schools. For Mr. Reynolds' class to have significant experiences in the area of weather, they needed, in addition to the books we have already mentioned, the raw materials for their experiments with weather instruments and weather phenomena. They needed a source of heat to boil water. They also needed a container to hold ice to see that when water vapor is cooled, it condenses. No science program is complete without materials for experimentation.

Many suggested lists of equipment for an elementary science program have been published in recent years. Usually these lists are compiled in two broad categories: useful nonscience materials, and science equipment. Here is one such list compiled with considerable thought to a *minimal equipment collection* for a school with from six to eight classrooms.⁵

USEFUL NONSCIENCE MATERIALS

alcohol, rubbing	bowls, assorted
aluminum foil, roll	boxes, small assorted cigar, etc.
bags, paper, plastic	camera and film
balloons	can opener
balls, rubber	candles
blotters	cardboard, sheets
bolts, assorted sizes, including large for electromagnets	cards, 3" × 5", 5" × 8"
bottles, small assorted, milk (quart and half pint), mason jars, gallon	cellophane sheets, assorted colors
pickle or mayonnaise jars	cement, model airplane or Duco
	chalk
	dyes, household, Easter-egg

⁵ Reprinted by permission of Association for Childhood Education International, 1200 Fifteenth St., N.W., Washington, D.C. From Bulletin No. 91, 1953.

USEFUL NONSCIENCE MATERIALS (Continued)

- eggbeater, rotary
- envelopes, assorted sizes
- fan, electric, small
- fertilizer, plant
- flashlight
- flowerpots, assorted
- garden tools, rake, spade, hoe
- glass sheets, small, assorted sizes
- glasses, drinking, pocket or Scout
- glue
- grater, kitchen
- hot plate, electric
- ice pick
- ink, India, red
- knives, spare kitchen
- labels, gummed, assorted
- lamp, desk or gooseneck
- lumber, scrap, assorted sizes as storage space permits
- magnifying glass
- Christmas tree snow
- clocks, electric or spring, discarded
- clothespins
- coathangers, wire
- compass, drawing
- corks, assorted sizes
- crayons
- curtain rods
- doorbell, discarded
- dowels
- paper, drawing, writing, wrapping, oaktag, construction
- paperclips
- paraffin
- paste
- pebbles
- pencils: lead, colored
- phonograph or turntable
- pins, plain
- plates, odds and ends
- potholder
- pots and pans, small assorted
- pulleys, awning
- punch, paper
- putty knife
- radio
- razor blades, single edge
- rubber bands, assorted
- rubber gloves
- rulers
- salt
- saltcellar
- sand, sea
- sandpaper
- saucers, discarded
- sawdust
- scales, any
- scissors
- scrap sheet metal, galvanized iron, lead, copper, zinc
- marbles
- matches
- mirrors, hand, small
- nails, assorted sizes, including large for electromagnets
- needles, assorted sizes
- nursing bottles, Pyrex
- paint brushes
- paints, oil, quick-drying enamels, watercolor, showcard
- screening wire for cages
- screw eyes
- screws, wood and metal, assorted sizes
- sink stoppers, large
- sponge, natural or cellulose
- spools, wooden
- spoons, table
- springs, assorted
- stapler and staples
- steel wool
- strainers, assorted sizes
- string, assorted scrap
- thermometer, room, cooking, medical
- thermostat, discarded

USEFUL NONSCIENCE MATERIALS *Continued*

thread, heavy white and black	toothbrush, old
thumbtacks	trowel
tin cans, assorted sizes, top cut clean	turpentine, pint jar
tin foil	varnish or lacquer
tongue depressors	vinegar, white
tools, hand (e.g.: saws, hammer, screwdriver, plane, tin snips, chisel, brace and bit, file, pliers)	wire, electric, extension cord, assorted scrap, picture
	yardstick

SCIENCE EQUIPMENT

5 balances, triple-beam, capacity 2000 g.	12 clamps, hand, test-tube
1 balance, double pan, 10-g. rider	4 clamps, burette, medium
3 spring balances, 250 and 2000 g., calibrated English and metric	1 condenser, Liebig, 12 in.
3 aquaria, two 6 gal., one 10 gal.	3 bags assorted corks, 100 to a bag
12 asbestos board mats, 12 × 12 in., 1/8 in. thick	1 cork borer
30 beakers, Pyrex, fifteen 100 ml., eight 400 ml., four 600 ml., three 1000 ml.	8 lamps, alcohol, metal
1 bell jar, 11 in. high	3 crucibles, porcelain, 35 mm. with covers
1 set brass weights, 1 to 1000 g.	8 petri dishes, Pyrex, 100 mm.
3 animal cages, two 12 × 15 × 20 in., one 12 × 15 × 28 in. (homemade are satisfactory)	3 dishes, evaporating, 90 ml.
1 microscope, student, ×100-430	1 dissecting kit set, school grade
1 box microscope slides	4 batteries, dry cell, No. 6
1 box microscope cover glasses	1 galvanometer, student grade
2 mortars and pestles, one 100 ml., one 300 ml.	6 switches, knife, single throw
4 blowpipes (brass), 8 in.	3 switches, knife, double throw
1 germinating box, glass front (homemade)	2 lamps, neon glow, standard base, 2 watts
15 bottles, wide mouth, 8 oz.	1 box filter paper, 15 cm.
12 bottles, narrow mouth, glass stoppers, 6 oz.	1 first aid kit, small
3 brushes, test-tube	3 flasks, flat bottom, one 250 ml., one 500 ml., one 1000 ml.
1 brush, beaker	6 forceps, chemical
1 brush, dusting	4 funnels, glass, two 75 mm., two 100 mm.
2 Bunsen burners, if gas available	6 tubes, thistle
	3 lb. glass tubing, 1 lb. each, 3, 5, and 7 mm.
	1 lb. glass rods, 7 mm.
	8 cylinders, graduated, two each, 50 ml., 100 ml., 500 ml., 1000 ml.

SCIENCE EQUIPMENT (Continued)

- 1 hot plate, electric, 1200 watts
- 1 hygrometer, wet bulb
- 3 jars, battery, 8 in.
- 6 magnifiers, tripod, $7\frac{1}{2}$ power
- 6 yardsticks, metric-English, 1 meter
- 2 friction rods, glass
- 1 electrophorus, small
- 1 pkg. pith balls
- 1 electroscope, school demonstration
- 3 cells, wet, student demonstration
- 2 power supplies, low voltage, AC-DC, 1-15 volts
- 30 medicine droppers
 - 1 hand or laboratory pump, pressure and vacuum
 - 2 lb. rubber stoppers, assorted
- 30 ft. rubber tubing, assorted small sizes
- 4 racks, test-tube, wood
- 6 doz. test tubes, Pyrex, 20×150 mm.
- 4 thermometers, laboratory, centigrade and fahrenheit, three 0-220-degree F. scale; one 400-degree F. scale
- 1 timer, photographic, sweep-second hand
- 2 tongs, crucible
- 6 supports, iron, rectangular base; four 18 in. high; two 20 in. high
- 6 clamps, ring; four 4 in. dia.; two 6 in. dia.
- 4 troughs, pneumatic, galv. iron, 9×12 in.
- 12 watch glass, six 75 mm., six 100 mm.
- 1 barometer, aneroid, English and metric
- 6 wire gauze, iron; four 4×4 in.; two 6×6 in.
- 1 gyroscope, toy, with stand
- 1 doz. balls, assorted, 1 in. dia., aluminum, iron, lead, wood
- 1 demonstration balance, knife edge, and pans for use with yardstick
- 1 doz. pulleys, bakelite, eight single, four double
- 1 model screw jack
- 1 air-pump plate, 8 in. dia.
- 2 barometer tubes; one calibrated, one uncalibrated
- 3 lb. mercury
- 2 air thermometer tubes
- 1 wall and ring apparatus
- 1 compound bar, demonstration
- 1 thermostat, adjustable
- 1 steam engine model, electric heated
- 16 magnets, Alnico, bar, 15 cm. long
- 4 magnets, Alnico, horseshoe, 45×45 mm.
- 1 doz. darning needles
- 2 magnetic needles, demonstration
- 6 magnetic compasses, 25-mm. dia.
- 2 friction rods, hard rubber
- 1 lb. magnet wire, cotton-covered, No. 18
- 1 lb. magnet wire, cotton-covered, No. 24
- 1 lb. bell wire
- 1 electromagnet, demonstration
- 2 coils, induction demonstration
- 1 induction coil, small Ford type
- 2 demonstration motors, St. Louis type
- 2 electric motors, 6 volts

SCIENCE EQUIPMENT (Continued)

- | | |
|---|---|
| 1 transformer, bell-ringing | 2 tuning forks, G-384, C-512 |
| 1 telephone receiver, demonstration | 2 model pumps, glass; one lift; one force |
| 1 microphone, carbon | 1 set demonstration lenses |
| 1 volt-ammeter, 0-10 volts, 0-35 amp. | 1 optical bench, student, with clamps |
| 12 lamp sockets, porcelain | 4 prisms, glass, 100 mm. |
| 1 doz. lamps, standard, 6 volt, 15 amp. | 6 lenses, convex, 5 cm., 12½ cm. focus |
| 25 ft. electric lamp wire, rubber-covered | 6 lenses, convex, 5 cm., 50 cm. focus |
| 4 bells, electric, 3 volts | 1 file, triangular |
| 4 pushbuttons, electric | 1 Erector set, medium size |

CHEMICALS

(All chemicals purchased should be of commercial or technical grade. Those requiring special care are marked with an asterisk. Inflammable substances are marked INF.)

- | | |
|--|--|
| 1 pt. acetone, INF | 1 oz. iodine |
| ½ lb. boric acid | 1 lb. lead nitrate |
| 1 lb. hydrochloric acid* | ¼ lb. lead oxide |
| 1 pt. alcohol, denatured, INF | 1 roll magnesium ribbon, INF |
| 1 lb. slum, sodium | 1 lb. magnesium sulphate (Epsom salt) |
| 1 pt. ammonia, household* | 1 lb. manganese dioxide |
| 1 lb. ammonium chloride | ¼ lb. mercuric oxide |
| 1 lb. calcium oxide | 1 lb. paraffin |
| 1 lb. calcium chloride | 1 oz. phenolphthalein |
| 1 lb. calcium carbonate (marble chips) | ¼ lb. phosphorus red, INF* |
| ½ lb. charcoal powder | 1 oz. silver nitrate |
| 1 lb. chloride of lime* | 1 oz. sodium metal, INF* |
| 1 pt. carbon tetrachloride | 1 lb. sodium bicarbonate (baking soda) |
| ¼ lb. cobalt chloride | 1 lb. sodium borate (borax) |
| 1 lb. copper sulphate | 1 lb. sodium carbonate (washing soda) |
| ½ lb. iron chloride | 1 lb. sodium chlorate, INF* |
| 2 lbs. iron filings, fine | 1 lb. sodium chloride (table salt) |
| ½ lb. iron sulphide | ¼ lb. sodium dichromate |
| ¼ lb. gelatine | 1 lb. sodium hydroxide (lye)* |
| ½ lb. gum arabic | |
| 1 pt. hydrogen peroxide | |

CHEMICALS (Continued)

- | | |
|--------------------------------------|---|
| 1 lb. sodium nitrate, INF | 3 vials litmus paper: 1 blue, 1 red,
1 neutral |
| 1 lb. sodium peroxide, lump,
INF* | 1 lb. zinc metal mossy |
| 1 lb. sodium silicate (water glass) | 1 pt. Benedict's solution |
| 1/4 lb. sodium sulphide | 1/4 lb. Bacto agar |

This equipment list might serve as a starting point for a school beginning to build up its science program. Of course, it does not suggest all the items that might be needed for the science activity in a specific classroom. Problems keep arising in a flexible science program for which other items of equipment may be necessary. And certain items, like seeds and small pets, must be bought when needed since they cannot be stored or easily anticipated. An elementary-school science program is aided greatly by the availability of funds that can be spent as the school year progresses. However, this list furnishes a basic framework on which a school can build.

A prevalent viewpoint in the elementary-school science education field has been that equipment be kept very simple. The equipment used should consist of items the child is familiar with. Using simple equipment, the child doing a particular science experiment is not unduly distracted by the mechanical aspects of a complex piece of apparatus. He is able to concentrate on the real purpose of the experiment—making an observation to test an hypothesis. In many textbooks and tradebooks for children, activities are found requiring items no more complex than a saucer, or a candle, or a tumbler.

Although it is undoubtedly true that simple pieces of equipment are desirable when they can be used adequately in the child's experimentation, the teacher should not feel limited by such equipment. When kitchen utensils or five-and-ten-cent store items can help adequately to solve the child's problem, fine. But we live in an age in which children are becoming more and more familiar with the tools of science. When the need arises for them to use a fine balance, a vacuum pump, or a galvanometer, they should be encouraged to do so if such equipment is available. The upper limit for science learnings in the elementary school should be the complexity of the concepts the children can understand rather than the cost or intricacy of the equipment needed.

Some Further Resources for Elementary Science

Besides books and equipment, there are several other valuable resources useful to the elementary-school teacher in planning for science learnings. These are human and physical resources both inside and outside the school building. People in the community that often can help children obtain information to help solve their science problems include: Teachers, parents, nonteaching school employees, youngsters in the school particularly well versed in a certain area, tradesmen, dentists, and a host of other people whom the youngsters meet in the community.

Judy's father is a dentist. Perhaps he can come to school to help find out the effect of fluorine in the water on reducing the extent of tooth decay. Steven's father works at the sewage disposal plant; he can help the children learn how sewage is treated in our town. The school custodian can help the youngsters find out how heat gets from the furnace to the classroom. There are extensive human resources available to the classroom teacher to aid in the science program. They have only to be recognized and approached by the school to become effective classroom aids.

Physical resources available to the teacher include the nearby farms or manufacturing plants, the airport, the school basement, the eroded hillside behind the school playground, the park, the nearby excavation where the new building is going up, the cracks in the sidewalk made by the freezing rain, and the dead tree in Jimmy's backyard that contains a termite colony. The community is a potential source of countless rich science experiences that can help children better understand the full meaning of the problems they work on in school.

Thus, the science program is not restricted to books or even to activities that can be carried on only in the classroom. The entire community is, in a sense, the school's science laboratory. The limiting factor in using resources outside the school to further a rich science program need be only the range of the imagination of the teacher and the children.

DISCUSSION QUESTIONS

1. How can a teacher arouse interest in a science topic that seems important but that does not, at first, stimulate the youngsters as wholeheartedly as the weather study in Mr. Reynolds' class?
2. What are some techniques for appraising the children's science background at the start of a school year?
3. Do all science topics lend themselves to a problem-solving approach?
4. What are some criteria to be used in selecting the children to work on each committee when a class approaches a science study as Mr. Reynolds' class did?
5. What is the role of the science textbook in each of the curriculum patterns described on pages 00-00?
6. What is a convenient and efficient method for purchasing and distributing science equipment in an elementary school?
7. What are the shortcomings of a science program based solely on reading with no opportunity for activity and experimentation?
8. Is it advisable for each child to perform every experiment done in a classroom?

SUGGESTED READINGS

- Atkin, J. Myron, and Burnett, R. Will, *Elementary School Science Activities Series*. New York, N. Y.: Rinehart & Company, Inc. "Air, Winds, and Weather" (1958); "Electricity and Magnetism" (1958). Scores of suggestions for science experiments.
- Blough, Glenn O., Schwartz, Louis, and Huggett, Albert J., *Elementary School Science and How to Teach It* (rev. ed.). New York, N. Y.: Henry Holt and Company, 1958. Part I describes the role of science learnings in the modern elementary school. Part II contains background science information for the use of the teacher plus suggestions for children's activities.
- Burnett, R. Will, *Teaching Science in the Elementary School*. New York, N. Y.: Rinehart & Company, 1953. Useful anecdotal material in Part I describes the influence of science learnings on the lives of children. Part II contains science information of value to the elementary-school teacher plus suggestions for a number of activities.
- Craig, Gerald S., *Science for the Elementary School Teacher*. New York, N. Y.: Ginn and Company, 1958. Chapter 2 includes a helpful discussion of the role of the classroom teacher in the elementary-school science program.

- National Association of Elementary School Principals, *Science for Today's Children*. Washington, D. C.: The Association, 1954. Dozens of suggestions for organizing and teaching elementary science.
- Zinn Herbert S., *Science for Children and Teachers*. Washington, D. C.: Association for Childhood Education, International, 1953. Concise statement of the values of a modern elementary science program.

Teaching Health

HEALTH HAS BEEN RECOGNIZED as one of the major objectives of education by every national policy-forming body of the present century. Leading educators have long urged scientific, progressive, dynamic school health programs because they believe that the school has a greater opportunity than any other social institution to contribute to better health of the American people. Yet this responsibility is seldom met. What can be done to fulfill this vital role more effectively?

The classroom teacher is the moving spirit of the elementary-school health program. It is he who sees the children every day, notes symptoms of infection and fatigue, and provides health counseling to the individual child. It is he who regulates ventilation, adjusts lighting, checks seating arrangements, and maintains a safe, comfortable, attractive classroom. Most important of all, it is he who guides the development of sound habits through expert, planned, functional, and creative health teaching.

As most frequently defined, the total school health program consists in three major parts: the provision of health instruction, of health services, and of an environment conducive to healthful living. This classification will be used, although some authorities designate additional areas, such as sanitation, safety, mental hygiene,

nutrition, and physical education. However, all these areas should receive emphasis in the health-instruction program. All are important aspects of healthful school living. Mental hygiene and nutrition are considered also in the provision of health services. Although physical education certainly makes important contributions to the school's health objectives and should be taught in ways which will take full advantage of the opportunities for incidental health teaching, it is a related but distinctly separate curriculum area. As such, it is treated in a separate chapter.

For these reasons, this chapter will be concerned with health education through health instruction, health services, and healthful living. In the sections immediately following, major attention will be given to problems of health instruction. Later, the educational possibilities offered by health-service activities and a healthful school environment will be discussed.

Health Education Through Health Instruction

Health instruction is the core of the school health program. Children must be healthy to achieve maximum educational progress. The school environment must be healthful in order to insure that children become more, rather than less, healthy in the process of becoming educated. All phases of the total program—health instruction, health services, and healthful school living—must be coordinated for best results. However, school personnel should never lose sight of the fact that education is the school's primary concern. Thus, in health as in other curriculum areas, instruction should receive the major emphasis.

What are the characteristics of a good health-instruction program? To answer this question, let us consider four specific questions which lead to the thirteen characteristics listed below.

How is health education organized?

1. Effective health instruction is organized to permit sound progression and to avoid undesirable repetition of content.

How is content selected?

2. Effective health instruction deals with topics which rate high in terms of pupil need.
3. Effective health instruction deals with topics which rate high in terms of pupil interest.

What teaching methods are effective?

4. Effective health instruction follows basic principles of sound teaching methods.
5. Effective health instruction deals with real problems of real people.
6. Effective health instruction utilizes the latest scientific information available.
7. Effective health instruction utilizes many varied resources for learning.
8. Effective health instruction applies knowledge to building desired habits.
9. Effective health instruction improves steadily through continuous evaluation.

Who is responsible for school health instruction?

10. Effective health instruction capitalizes on the educational opportunities offered by health service personnel.
11. Effective health instruction takes advantage of educational possibilities in a healthful school environment.
12. Effective health instruction utilizes the contributions of all members of the school staff.
13. Effective health instruction coordinates the efforts of school and community to improve individual and community health.

With these characteristics of effective health instruction in mind, it is possible to outline a good program. However, several major problems need to be solved by the teacher: (1) How can I determine the health needs of my pupils? (2) Where can I locate the best health curriculum materials for my group? (3) What teaching procedures can I employ most effectively? (4) How can I guide the

application of sound health knowledge to the building of desirable health habits? (5) What techniques can I use in evaluating health learnings? (6) What is my role in furthering effective school community cooperation in health education? The major purpose of this chapter is to assist the teacher by suggesting helpful procedures and resources for achieving effective health instruction.

Curriculum Organization for Health Instruction

A keynote to achievement of school health objectives is *planned* instruction within a *flexible* schedule. There are several ways of scheduling health instruction, each of which has its advantages and disadvantages. Hygiene is frequently scheduled as a separate subject in schools which organize all content fields as separate subjects. Such a plan allows for a specified number of minutes per day or per week for health instruction. Schools using this pattern of curriculum organization should allot to health instruction an amount of time comparable to that given to other major areas of the curriculum. Such a schedule usually insures specific attention to major learning areas within the health field but suffers from the serious disadvantage of providing for little or no integration with the other learning areas. This frequently results in health instruction which is not related to the real problems and interests of children, which overemphasizes the anatomical and physiological approach, and which becomes uninteresting because of too much repetition and duplication.

Health instruction is often combined with science or social-studies instruction, or with both together. This type of organization permits more integration of learning than does the separate subject plan but still encourages much compartmentalization. From the standpoint of health instruction, there is always the possibility that health will be underemphasized as the teacher strives to include all the highlights of several subjects within the time allotted.

Some schools successfully provide health instruction, together with the content of other traditional subjects, in relation to interests of children in such areas as becoming acquainted with the neighborhood, modes of transportation, life on a farm, weather, ways of living in different environments. This approach permits a broad,

functional treatment, but there is always the danger of neglecting essential health learnings.

One of the most frequent weaknesses in health instruction has been repetition of content from grade to grade without sufficient progression to hold interest and to challenge pupils at different maturity levels. Continuity in the health-instruction program is important; yet a certain amount of repetition of essential facts is needed to provide a strong foundation for desired habit patterns. Health curriculum planners should identify the areas to receive major emphasis at each grade level, planning the curriculum as a whole to avoid needless repetition and paying particular attention to new problems and more advanced knowledges and understandings when a given area appears in the curriculum for a second or third instructional unit. Hoyman formulated one such plan in a four-cycle, twelve-year health-education curriculum for Oregon schools.¹ This plan provides, for example, for the study of nutrition in grades three, six, nine, and twelve; each time nutrition is emphasized in the curriculum different and more advanced problems are selected in accordance with changes in pupil needs, interests, and maturity.

Whatever type of curriculum organization exists, it is important that the teacher determine specific health-education objectives for each group and evaluate the outcome of instruction systematically and continuously to learn what progress pupils have made toward these goals, to identify newly emerging needs, and to revise specific objectives in terms of desired long-range program outcomes. Sound and effective health education, like all successful elementary-school teaching, is concerned with the felt needs of pupils, provides opportunities for cooperative planning by teacher and pupils, encourages pupils to assume responsibility for their own learning, recognizes that the child learns as a whole person, considers individual differences among pupils, and emphasizes the application of knowledge to real-life situations. Regardless of variations in curriculum patterns and teaching approaches and techniques, health instruction should always be planned and regularly evaluated in terms of scientifically proven educational principles.

¹ Howard Hoyman, "Oregon's Four-Cycle Health Curriculum," *Journal of Health and Physical Education*, 15:223-224, 276-280 (April 1947).

Selecting Content

The health curriculum at any grade level should include those topics which rate highest in terms of pupil need as well as those in which pupils indicate the greatest interest. Major problem areas in the health field include: food and nutrition, exercise and body mechanics, sleep and rest, eyes and ears, teeth, mental and emotional hygiene, sex education, habit-forming substances, infection and immunity, chronic and degenerative disorders, and safety.

Many professional health publications provide similar lists of health-problem areas with suggestions for instructional emphasis for each age group.² These recommendations are based upon scientific knowledge concerning common health needs. The United States Public Health Service compiles summaries of causes of death, death rates, and incidence of illness by age, race, and sex; such statistics provide clear indications of many of the leading health problems of any given age group as well as information concerning adult health problems which children need to prepare themselves to meet. The National Safety Council gives us regular, detailed statistical data on accidents. Voluntary health agencies and commercial organizations directly concerned with health collect useful information which is widely distributed and readily available.

All authorities agree that the first essential of a good health-instruction program is that it be based upon the needs of the pupils. Since any particular grade group of American children will have many health needs common to other children of similar ages, cultural backgrounds, and probable future environments, the individual teacher can organize his basic health-instruction program in terms of the major problem areas. However, a competent health educator will enrich and improve this basic program as rapidly and as extensively as possible by accepting the further challenge of identifying needs unique to his group and to individual children within the group.

In determining health needs, the classroom teacher will find many approaches helpful. Informal observation by the teacher

² Note especially the following references in the chapter bibliography: Fields and Edgerton, Grout, and Joint Committee on Health Problems in Education.

should not be overlooked as an important means of determining the health needs of any group of children. A teacher's observation that children do not wash their hands after using the lavatory, that pupils are spending most of their lunch money on candy bars, or that cyclists do not follow traffic rules, suggests a specific health need that can serve as the basis for planned health instruction. A child's severe cold, a pupil using a saw incorrectly, or an individual postural defect offers opportunity for individual health counseling as well as possible content for group instruction. The information about children's health needs gained through observation by an alert teacher is essential in adapting health teaching to an individual or class.

Fortunately, most school situations permit the teacher to supplement his observation by reference to various health records. Individual and group health needs can be identified by studying the cumulative health record cards (which should include individual health histories, results of visual and auditory screening tests, and records of medical and psychological examinations). Pupils' current health knowledge can be determined by pretests.

Certain types of reports from pupils or their parents also can help teachers identify health needs. Checklists and questionnaires are sometimes helpful. A daily schedule of a pupil's activities often identifies individual health problems. Interviews or conferences with parents frequently clarify pupil problems which cannot be adequately identified in other ways. Conferences with pupils and class discussions also are used by many teachers in identifying health needs.

Examples in the preceding paragraphs have emphasized personal or individual health needs. The teacher should also identify local social or community health problems and needs. Many of the same techniques for determining needs can be applied. Observation, for example, may bring attention to problems of eating out, inadequately lighted stairways in public buildings, and safety hazards on city playgrounds.

The survey is an excellent approach to identifying community health needs. A group of children, with the teacher's help, can conduct a survey of school sanitation, of lighting conditions in the school building, or of safety hazards on the school playground. Surveys of such community health problems as pedestrian safety, accident haz-

ards in the home, and immunization against communicable disease may also be made. Any of these projects could serve to introduce an excellent health-instruction unit.

Conferences and interviews can also be used to uncover local community health needs. Members of the school staff such as the school physician, school nurse, cafeteria director, supervisor of buildings and grounds, health coordinator, and other administrative officers are able to provide specialized information and help. Personnel of the local health department and representatives of various community agencies also are excellent resource persons. In the important task of identifying health needs no avenue or possible source of assistance should be overlooked.

Health interests of children can be studied through planned interest inventories as well as through informal observation, conferences, interviews, and written themes or questionnaires. The teacher can construct his own device for securing information about the health interests of his pupils. The Denver report³ is recommended to the teacher who wishes to study the techniques used in one specific local situation.

Units should be planned to achieve definite instructional objectives based upon pupil needs. It is important to recognize that, although study of pupil needs and consideration of pupil interests often lead to inclusion of similar topics, pupils do not always express interest in all problems in which they actually need instruction. The teacher needs to cultivate interest in topics vitally related to long-range goals. For example, a fifth-grade class may not indicate much interest in safety education. Yet the fact that accidents are the leading cause of death among school-age children may guide the teacher to select instructional materials in this area. Children are interested in their own health; specific interests can be cultivated when personal or group needs can be demonstrated.

Selecting Teaching Procedures

The same basic principles of effective teaching apply to health instruction as to instruction in all curriculum areas. The elementary-school teacher who would improve health education in his classroom

³ Denver Public Schools, *Health Interests of Children*. Denver, Colo.: 1947.

would do well to remember that good teaching not only improves the conditions for learning but also contributes to the school's health objectives by fostering the mental health of his pupils. A competent teacher will succeed in health education because of the assets which have already made him a successful teacher of children—because of his personality, his interest in pupils, his knowledge of subject matter, and his skill in teaching methods. Improving instruction in this specialized area is primarily a matter of knowing the subject matter, recognizing its importance, and using teaching procedures which have proved effective with other subject matter.

General principles of health education in the elementary school have been summarized by the Commission on Health in Schools in the following statement:

1. Be a good example of healthful living.
2. Select health subject matter in terms of the child's needs, interests, and abilities.
3. Remember that home conditions may prevent some children from meeting standards that are desirable.
4. Make the child comfortable and secure when he reports on his own health and on conditions in his home. Never embarrass him.
5. Teach by real-life problems, real people, real things. Avoid such things as animated toothbrushes and health fables.
6. Use positive procedures. Health should have happy connotations for all.
7. Base health education on scientific, accurate information, derived from authentic sources.
8. Have enthusiasm as a teacher, and vary the procedures followed.
9. Use the opportune moment, the climax of interest, for good integrated health teaching.
10. Plan classroom activities which will provide each child with the health experience he needs.
11. Stress the natural rewards of healthful practices, such as success, skill, and happiness, rather than the artificial stimulation of gold stars for health habit, posture, and the like. The latter may have some shortlived value, but such awards often encourage dishonesty, evasion, and a wrong sense of values.¹

Curriculum materials in health education should deal with real problems of real people. Health is a vital concern at any age, there

¹ *Health in Schools*. Washington, D. C.: Twentieth Yearbook of the American Association of School Administrators, N.E.A., 1951, p. 162.

is no need to fall back upon an approach which organizes all instructional materials in terms of the structure of the human body and its physiological systems. Certain anatomical and physiological information is important from the point of view of content but this can be learned best in relation to the actual problems of living people. Though instructional methods can rely somewhat more upon abstract concepts in the upper grades, instruction must never lose sight of the **real health problems of the pupils.**

The problems of daily living in the new school environment are usually the first curriculum materials in health education—problems such as cleanliness, playground safety, and eating habits. If the teacher guides the children toward healthful behavior in these aspects of daily living, there need be no pointless repetition in health instruction from one grade to the next.

Knowledge of the scientific facts upon which health education should be based is growing rapidly. The teacher's information on many important health problems may easily become outdated. Although elementary-school children seldom require detailed scientific information, the teacher himself must keep abreast of recent developments in the health-education field. Instructional materials must be timely, up-to-date, and accurate according to the best present-day knowledge. Byrd's *Health Yearbook*,¹ which offers an annual summary of the latest health facts, is a great aid to the teacher who needs assistance in keeping up to date in health education.

A good health textbook may be used as a starting point for classroom instruction but should always be supplemented by other resources. The text should be summarized information essential in solving major health problems usually found at the designated grade level. Several publishing companies now offer complete series of modern health textbooks, with a book for each grade.² Obertuoffer has developed a set of criteria to aid teachers in selecting health texts.³ Fields and Edgerton⁴ provide excellent guidance in the use

¹ Oliver F. Byrd, *Health Yearbook*. Stanford, Calif.: Stanford University Press, annual.

² A list of elementary-school health and safety textbook series is included at the end of this chapter.

³ Delbert Obertuoffer, *School Health Education*. New York, N. Y.: Harper & Brothers, 1954, pp. 89-90.

⁴ Mary R. Fields and Ann F. Edgerton, *Teachers Guide for Health Education*. Brooklyn, N. Y.: Reimsen Press, 1949.

of materials from several of the best textbook series in planning classroom instruction in specific health subjects.

Fortunately, sources for supplementary health curriculum materials are extensive.⁹ Official city, state, and federal agencies supply quantities of useful material, much of it free or inexpensive. Assistance may be obtained from the U. S. Office of Education, local and state health departments, the U. S. Public Health Service, and state university extension services. Professional health organizations and voluntary health agencies also are excellent resources. Many commercial organizations provide materials which can be used effectively to enrich the health curriculum. All resource materials used, either printed materials or audio-visual aids, should be evaluated by the criteria described in Chapter 3. The value of resource materials will depend upon many factors, including content, interest-appeal, production attributes, and the manner in which they are used. Suggestions for finding curriculum resources for health instruction are included in the references listed at the end of this chapter. The Joint Committee's chapter on finding and using resources¹⁰ and Grout's list of sources of free and inexpensive materials¹¹ may prove especially helpful.

Health instruction lends itself to a variety of teaching techniques, and the techniques used to teach knowledge are not essentially different from those used in other subject areas. Every teacher should be skilled in the use of a number of techniques in order to stimulate maximum interest in health learning among his pupils. Teaching techniques useful in health instruction, in addition to the use of textbooks, include library reading and individual study; dramatizations in the form of health plays, puppet shows, and role playing; numerous variations of the discussion method, including question-answer procedures, open-end interviews, buzz sessions, and informal

⁹ An excellent summary of supplementary materials has been provided by Arthur H. Stemhaus and Karl E. Fant, "Sources of Supplementary Materials for Health Instruction," *American Journal of Public Health*, 39:1407-1416 (November 1949).

¹⁰ Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, *Health Education*. Washington, D.C.: N.E.A., 1948, Chapter XVII, "Finding and Using Resources," pp. 324-336.

¹¹ Ruth E. Grout, *Health Teaching in Schools*. Philadelphia, Pa.: W. B. Saunders Co., 1958, Appendix B, "Sources of Free and Inexpensive Health Education Materials," pp. 322-327.

teacher-class discussions; the use of all types of audio-visual aids; special contributions by resource persons drawn from the school or community; laboratory or demonstration methods; excursions and field trips; health fairs, collections, and exhibits; various testing techniques, games adapted to educational purposes; surveys organized and conducted by the pupils; and pupil projects of all kinds. The classroom teacher should never forget, however, that his most effective teaching technique is his own example. Children will learn desirable health habits much more quickly if they can pattern their own behavior on that of the adults whom they admire.

Building Health Habits

The objectives of any health-education program are defined by specific changes in behavior. Knowledge is not enough. A child needs to know how to brush his teeth; he needs to learn to perform this skill; and, most important, he needs to form the habit of brushing his teeth regularly and correctly. All health instruction should be directed toward essential behavior changes. Because motivation and attitudes are important in the development of health habits, the teacher should consider carefully what attitudes the children have toward a given health practice and what changes in attitude are necessary before the desired behavior patterns can be effectively learned. Sometimes the teacher must deal directly with these attitudes in order to improve everyday health habits.

If the reasons for desirable habits are understood, the necessary behavior changes become much easier. The child who learns in a stimulating class discussion about the process of dental decay, the function of toothbrushing, and the need for frequent professional inspection of his teeth is much more likely to develop good dental habits than is the child who brushes his teeth at bedtime because his parents tell him that he must. The child who discovers the relationship between a "tired" feeling in school and staying up too late to watch television may be ready to assume more responsibility for improving his own sleeping habits than the one who is scolded for it. Children who have learned the basic principles of infection respond more willingly to a teacher's suggestion for breaking a cookie before sharing it than those who do not have such health knowledge.

However, actual practice in applying health knowledge to problems of daily living is the key to building better health habits. A child who rounds his shoulders over his desk may be able to describe a good sitting posture in an examination. If his teacher checks the adjustment of his desk and seat occasionally, however, and reminds him, when necessary, to correct his sitting posture, there is more reason to anticipate improvement in his postural habits. In the same way the school can influence pedestrian safety habits by guiding children to cross streets correctly as they walk to and from school. Similarly children who dispose of used tissues and other types of trash properly in the classroom and school corridors are not likely to become adult "litterbugs."

Health behavior should be based on principles rather than on overspecific rules. It is wiser to teach children the principles of a balanced diet than to urge them to eat plenty of spinach. It is more important for children to understand the relation of fatigue to infection than to memorize a long list of "don'ts" for avoiding colds. Children's nutritional habits are more favorably affected by sound basic concepts of the individual nature of growth than by oversimplified rules for conforming to an "average." Flexibility of behavior, based on understanding and critical thinking, is the ultimate objective.

Evaluating Health Instruction

Evaluation of health instruction is essential because it helps to determine the nature and amount of progress made toward established goals, provides information necessary for determining future teaching emphases, identifies strengths and weaknesses in teaching procedures, and provides data for enlisting community support for the programs.

The teacher is likely to ask: Exactly what must be evaluated in order to improve the school health curriculum? Certainly the outcomes of school health education must be manifested in changes in individual pupils; this involves evaluation of health knowledges, health attitudes, and health practices. Secondly, to determine outcomes of the school health program we may evaluate changes in health status or specific conditions in the home, school, and com-

munity. Further, no evaluation would be complete without an evaluation of the instructional program itself, its scope, objectives, and methods, as well as its outcomes.

The most important evaluation is that which takes place from day to day, which immediately affects the educational program and is reflected in improved pupil health status and better health attitudes and practices. However, this daily evaluation should be supplemented by periodic, more systematic, and more thorough evaluation. In attempting an over-all appraisal, the areas to be evaluated should be carefully delineated. A variety of evaluation devices should be used in order to gain information on various aspects of the program and permit adaptation of the evaluative technique to the particular aspect studied. Evaluation should be broad in scope but also should include scientific measurement of specific outcomes whenever practicable. Pupils, parents, and other community representatives, as well as teachers, should participate in evaluation of school health programs.

Since accurate knowledge is the basis of desirable practice, measurement of health knowledge is appropriate. The methods used to measure knowledge of subject matter in other fields apply to health knowledge. Oral or written examinations of various kinds are useful evaluative devices. There are a few standardized health knowledge tests available; however, for most purposes, tests which the teacher constructs specifically for his own classes are more satisfactory.

The measurement of health attitudes is somewhat more difficult. Most commercially developed devices are questionnaire or check-list instruments which require more discrimination and generalization than can be expected of elementary-school children. Personal interviews, diaries and other autobiographical records, and teacher observation are more successful techniques in evaluating the health attitudes of elementary-school children.

Because desirable health practices are the ultimate goals of school health education, it is recommended that the teacher use the best means available to evaluate individual health practices. Observation is probably the most satisfactory technique. Although observation can never be completely objective and is further limited by the fact that the teacher cannot observe all the children all the time, much helpful information can be gained by noting whether

or not children remember to wash their hands before eating, how many children select milk when buying lunch in the school cafeteria, the consistency with which children walk to the pedestrian lanes before crossing streets, and similar behavior. Observation may be supplemented by interviews, diaries, inventories, and autobiographical records. Systematic records kept by the pupils can be used to evaluate eating, sleeping, exercise, and certain other health practices.

Health education should result in improvements in home, school, and community health as well as in individual health practices. Though the classroom teacher should encourage such evaluations, he should not be expected to assume responsibility for these extensive evaluations of the program.

Use of the many devices mentioned in the preceding paragraphs may indicate substantial achievement of the outcomes desired in a particular school health program. But a complete evaluation requires application of certain additional criteria to the instructional program itself. Are the specific objectives of the program based upon the real needs of the individual pupils in the group? Is instruction based upon accepted health principles and accurate health facts? Does it follow recognized principles of education, psychology, and child development? These questions are illustrative of criteria recommended by the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association.¹² The classroom teacher, as the key person in elementary-school health education, should use his ingenuity, as well as the suggestions found in Oberteuffer¹³ and other chapter references, to evaluate his health teaching for the purpose of providing better guidance to pupils in this vital field of education.

Health Education Through Health Services

Well-organized school health services consist of medical, dental, nursing, and other specialist services needed for health appraisal of individual children, emergency care procedures, provisions for control

¹² *Op. cit.*, pp. 348-349.

¹³ *Op. cit.*, pp. 219-222.

of communicable disease, and special services for handicapped pupils. They include medical and dental examinations, vision and hearing tests, posture screening, measurement of height and weight, immunizations, and first aid activities. Health services are provided primarily for the purpose of maintaining and improving the health of the children. It is also possible, and extremely desirable, to organize and conduct school health services so that they serve an important educational function. In addition to providing the educational values inherent in pupil contacts with these important services, they create excellent opportunities for making classroom instruction more meaningful.

Dental examinations scheduled for an entire first grade provide an opportunity upon which the classroom teacher may capitalize. In preparing for the experience the teacher may explain to the children that the dentist will determine whether their teeth are healthy, that the dental hygienist will teach them to clean their teeth, and that neither of these procedures will be painful. After the examinations the teacher will have a good starting point for teaching dental hygiene in relation to the interests of his group. He can arrange for demonstration and practice of correct procedures in brushing teeth. He can stress the concept of the dentist as a person able to help others toward improved health, rather than as a person to fear. He can emphasize the importance of visiting the dentist regularly. He may wish to provide specific instruction in the care of six-year molars. The dental education unit may well lead into meaningful nutrition studies, possibly beginning with a positive approach to the mid-morning lunch.

Any school immunization program also offers opportunities to vitalize classroom health instruction. Suppose, for example, that a poliomyelitis immunization program is planned for children in the primary grades. The third-grade teacher may well organize a unit in the prevention and control of disease around this experience. Instruction should center around hygienic living practices and the basic concepts of immunology. Activities may include dramatizations of such famous child patients as James Phipps, with whom Jenner first demonstrated the effectiveness of smallpox vaccination; observation of films and colorful bulletin-board displays on avoiding colds; practice of hygienic measures such as covering the mouth and nose

when coughing and sneezing, washing the hands before eating, and careful disposal of used tissues; studies of clothing suitable for different weather conditions; demonstrations of the operation of a hypodermic needle; discussion of the need for isolation and exclusion from school of children with communicable diseases. Parent Teacher Association programs in support of a local immunization program may be developed as an outcome of this unit.

Still another illustration of the potential educational values of the school health services occurs in connection with the procedures established for first aid or emergency care. If a fifth-grade boy injures himself in a fall from his bicycle on the school playground, this school emergency creates an excellent educational opportunity. The teacher may be able to point out how the accident might have been avoided, had he followed bicycle safety regulations. The teacher may demonstrate for the entire class the correct first aid procedures for abrasions. If the school is fortunate enough to have a nurse on duty, she may be asked to meet with the class for instruction in first aid and a broad discussion of how the children can best utilize the school's health services. The fifth-grade teacher may wish to guide his class into a detailed study of bicycle safety, group evaluation of current school safety regulations, and an elementary first aid unit. Any of these would be timely and could contribute toward the objectives of health instruction.

Young children want to grow. Regular measurement of height and weight creates occasions for introducing instructional activities in the area of growth and development. The teacher can make the weighing and measuring experience an important health lesson by teaching the children how to weigh and measure themselves, by helping them to keep graphs of their own gains in height and weight, and by encouraging them to watch for relationships between habits and growth. The trend toward recording measurements in diagrammatic forms, such as the Wetzel and Iowa grids, helps the teacher to emphasize the individual nature of growth.

Well-organized health services are essential for the protection and improvement of the health of school children. The classroom teacher's participation in health service activities helps him to know his pupils better, to demonstrate his interest in individual children, and to individualize his teaching. His participation may include

daily observation of pupils for health defects and deviations, study of absentee and accident records for health implications, participation in certain health-appraisal services such as vision testing, measurement of height and weight, and obtaining health histories, preparing his class for examinations, immunizations, and other group experiences, assuming responsibility for simple first aid care, working with the school nurse and the school doctor in helping individual children with health problems, and providing help to parents in gaining maximum benefits from school health services.¹¹ Instructional opportunities which school health services create should be recognized and utilized. The examples above are merely suggestive of the many ways in which the teacher can increase the effectiveness of health instruction through school health services.

Health Education Through Healthful Living

Modern elementary schools contribute to the child's health by providing him with a safe, clean, comfortable, attractive, pleasant, and satisfying environment. Healthful school buildings also create opportunities for improved health teaching.

The teacher has important responsibility for maintaining healthful classroom living conditions. Heat, ventilation, and lighting must all be regulated and occasionally adjusted. This necessity suggests group instruction dealing with such problems as the following: What is optimum classroom temperature? Why is it more comfortable when the air is circulated? What is meant by the term *foot candle*? How much light do I need for desk work? What causes glare? How do different clothing materials help to control body temperature? After sufficient instruction in these matters, the children will be able to assume responsibility for checking the room temperature, adjusting window shades, controlling electric lights, and performing other tasks related to maintaining healthful classroom conditions.

Children should be taught to take pride in keeping their class-

¹¹ The classroom teacher's responsibility for participation in school health services is thoroughly defined and described in C. L. Anderson's *School Health Practice*. St. Louis, Mo.: C. V. Mosby Co., 1956.

room clean, orderly, and attractive. The teacher can assist in developing habits of keeping work areas neat, washing hands after use of dusty or oily materials, and returning work materials and personal belongings to their proper places. Children also may help the teacher to prepare and arrange attractive room displays.

The teacher must give periodic attention to healthful seating facilities and adjust chairs and desks for children's comfort and correct sitting postures. Children should be guided to develop good body mechanics in all daily activities: sitting, standing, walking, lifting, carrying, pushing, pulling, and the many athletic activities performed on the playground or in the gymnasium.

School food services provide excellent opportunities for health learning. Every elementary school teacher can increase the effectiveness of the local health education program by cooperating with other members of the school staff to make the mid-morning or mid-day lunch an educational experience for children. Actual lunchroom menus can be used in class instruction. Applications of knowledge of dietary needs can be made in the school cafeteria. Understanding teachers can help children to select balanced meals, consciously to include all food essentials, and to regulate caloric intake. Many children need teachers' guidance in establishing habits of washing hands before eating, chewing food well, practicing correct table manners, and conversing pleasantly during meals.

Healthful school living also requires adequate provisions for and competent instruction in emergency procedures. Every teacher should prepare himself to provide prompt and efficient leadership in case of fire, earthquake, tornado, or air raid. Children need thorough instruction in emergency procedures in order to carry out their responsibilities effectively when an emergency arises.

Organization of the school day is an important factor affecting the mental and physical health of pupils. Parents, administrators, and teachers must each consider health implications in arranging the child's daily program. Parents must guide the child's sleeping habits and out-of-school activities with understanding of the total demands made upon him during school hours. Administrators must adjust school bus schedules to keep the length of each child's school day within healthful limits. Teachers must organize classroom activities in keeping with the physiological maturity and health status of

individual pupils. Younger pupils require a shortened school day and should not be expected to concentrate on close, intensive work for long periods (three ten to fifteen minutes at one time). Examinations should be short and given regularly as part of the class work. The schedule should allow sufficient time for proper toilet habits and adequate luncheon hours. Physical activity should be a planned part of every school day. The sequence of school activity should be designed to relieve physical tension and mental boredom through sufficient variety. As the teacher guides the daily program, he can help pupils to learn to assume more responsibility for balancing their own activities, to engage in physical activities safely and healthfully, to release tensions through muscular relaxation.

The teacher who adequately fulfills his responsibility for health education is conscious of the significant effect of his personal example and of the over-all classroom atmosphere on the health of the children in his classroom. The competent teacher strives to provide an informal, relaxed, permissive, friendly atmosphere (of the type described in Chapter 1), yet one which is also characterized by order, purposefulness, and respect for group regulations. Setting the stage for healthy interchange among pupils and maintaining truly democratic teacher-pupil relationships are equally important. The daily schedule must be flexible; activity and rest must both be provided in proper balance. Perhaps most important of all, the conscientious teacher tries to meet adequately each child's basic emotional needs for affection, status with his peers, and the experience of success.¹

Responsibility for School Health Education

Throughout this chapter the responsibility of the classroom teacher for health instruction has been emphasized. Although not solely responsible for the school health program, he is the key person in achieving the school's educational objectives in the field of health. He is expected to work with health service personnel and to make important contributions toward healthful school living; but his most

¹ Paul H. Van Ness, "Combating Emotional Malnutrition," Twenty-ninth Yearbook of the Department of Elementary School Principals, *Health in the Elementary School* (Washington, D. C.: N.E.A., 1950), pp. 94-99.

important role in the school health program is the provision of competent and effective health instruction. He must be concerned with the coordination of various aspects of the health program to make possible integrated learnings for each of his individual pupils and to insure maximum carry-over of health learnings to situations beyond the school environment. In carrying out his role in the school's total health program he works with administrators, health specialists, and other elementary-school teachers.

On the other hand, the individual school administrator must accept a large share of the responsibility for the success of every part of the instructional program; health instruction is no exception. The administrator must obtain and budget sufficient funds for the school health program; he must employ needed qualified personnel; he must provide adequate instructional materials; he must arrange a schedule that allows sufficient time for health instruction; he must stimulate in-service education of teachers in the health field; he must encourage healthful school living through provision of adequate facilities, competent maintenance staff, and appropriate administrative regulations. The individual classroom teacher depends upon his administrators to perform these functions in support of effective health instruction. At the same time the teacher must assume responsibility for keeping his administrators informed of his specific needs for better health teaching. Close cooperation of teachers and administrators is essential to ensure maximum carry-over of the school's health program into pupils' homes and the larger local community.

In one school, the administrator may arrange for coordinating the program by employing a health coordinator. In another school, he may assign the responsibility of coordinating health instruction to one teacher who has particular interest and especial competence in this area. If the district employs a full-time school physician or school nurse, responsibility may be delegated to this individual. Some school systems have coordinated their health programs very effectively through the organization of school health councils which include in their membership pupils, parents, and community leaders, as well as members of the school staff concerned with health education. In every type of organization provision should be made for encouraging teachers to contribute ideas for improving the program.

Health specialists who share with the classroom teacher responsi-

bility for school health education include physicians, nurses, dentists, dental hygienists, psychologists, nutritionists, and health teachers and coordinators. Usually these persons, with the exception of health teachers and coordinators, are primarily responsible for health services and are not asked to perform direct health teaching roles. However, each of them has a contribution to make in the instructional program; to the extent that their other duties permit, they may be called upon to enrich health teaching and to relate instruction more closely to school health services.

A district which employs a health coordinator may assign to him a variety of functions, including scheduling of health examinations, supervising school health records, organization of a school health council, home visitation, and the improvement of school environmental conditions affecting the health of pupils and staff members. One of his most important duties will certainly be the coordination of the health instruction program. In this capacity he should work with the classroom teachers in developing the local health-education curriculum, make up-to-date resource materials available to the teachers, provide assistance as needed in methods of health instruction, and work with health service personnel to coordinate health services with classroom instruction.

Classroom teachers may expect from physical-education teachers certain especial contributions to the school health program. Physical-education activities promote healthful living because they provide opportunities for active, vigorous participation. The physical educator is in a unique position to observe children, identify health needs, and provide individual health counseling. Often the physical-education specialist is responsible for emergency first aid care within the school building; in some instances he is even assigned the responsibility of health coordinator. The physical-education teacher may make direct contributions to health instruction in matters relating to safety, sanitation, care of injuries, rest, and relaxation.

Every teacher has some responsibility for health instruction. Specialists in art, music, dramatics, speech, and reading, teachers who provide instruction to the hard-of-hearing, partially sighted, orthopedically handicapped, and mentally handicapped, and all members of the school staff who work directly with children must be prepared to provide informal but competent health teaching whenever an

appropriate opportunity presents itself. The alert classroom teacher will work with administrators, health specialists, and other teachers in developing a total coordinated school health program and will make full use of other members of the staff as resource personnel for enriching pupil health experiences.

School-Community Cooperation in Health Education

The primary responsibility for a child's health rests with his parents. The total community assumes certain specific responsibilities because the welfare of its citizens cannot be separated completely from the health of individual children. Although the school's major health concern is the instructional program, it accepts certain additional obligations because it is impossible to fulfill adequately its public education function if it ignores the challenge to maintain and improve health. But no school administrator or classroom teacher should forget that the first responsibility for a child's health belongs to his parents.

The school must recognize the need for working with the home in the vital area of health education. School health services should supplement family health care and community health services. Healthful living should carry over into individual homes and community facilities. School health instruction should supplement health teaching in the home and the health-instruction programs of public and private agencies. Children from homes in which practices conflict with accepted health behavior patterns must be guided toward more desirable attitudes and habits, without being encouraged to rebel or to lose confidence in their parents.

What is the school's role in working with parents toward more effective health education? The school's chief responsibility is to encourage parents to accept their full responsibility for the health of their children and to assist them in this role through an appropriate parent-education program. Some schools offer special adult classes for parents. Others merely hold open forums on special occasions. For example, a discussion on communicable diseases and the

probable values of immunization might be scheduled before requesting parental approval for children to be inoculated by a school physician. An informal conference may help a parent to understand the importance of adequate breakfasts for his child. If a child is frequently fatigued because of insufficient sleep, the best answer to his problem may be parent education in this matter.

The school also can help parents by sharing with them information about their children. The classroom teacher may have opportunities to observe symptoms of individual health problems which are not readily observed at home. The teacher is in a position to recognize deviations from the age group in physical and social-emotional development. The school nurse may be able to interpret to parents findings of school medical examinations or health screening programs which suggest the need for follow-up action.

The school has a further responsibility to help parents in meeting the health needs of their children when they are unable to do so themselves. This can be done by providing specific information about sources of help, by assisting parents in making appointments and arrangements for free services, and by requesting aid for individual children or families from local health and welfare agencies. Another approach lies in providing leadership for establishing and developing community programs for solving health problems which individual families cannot solve successfully by themselves. These are community problems; the school has an obligation to initiate action toward community acceptance of responsibility in dealing with such problems.

Many specific ways for cooperating with parents in the interests of improved health of school children have proved successful. Individual conferences are often most effective because of the direct person-to-person relationship. In a personal conference with individual parents the teacher may learn, for example, that a child has had several attacks of nausea at breakfast time on Fridays. The teacher may be able to share with the parents the observation that the child does not seem to enjoy the physical-education period on Fridays when children are permitted to choose their own teams. Perhaps together they can work out ways of helping this youngster to gain greater group acceptance in school play groups.

The teacher can also work with parents through the school

nurse. Often the school nurse or the public health nurse is more readily welcomed into the home than the classroom teacher. Because of her special knowledge in the field of medicine, she sometimes inspires more confidence in the school's health program. Often she can help to stimulate action on the part of the family when a child needs glasses, special orthopedic help, assistance with speech difficulties, or a thorough medical examination. She is usually in a position to provide quick and efficient help to parents in making professional contacts for needed health services. She is frequently called upon to interpret various aspects of the school health program to parents.

The potentialities of school visits by parents should not be overlooked. Frequently, a parent who observes a child in his school environment sees important items which could not be brought so forcefully to his attention in any other way. Hearing handicaps, postural problems, group adjustment difficulties are examples. This is one important reason for encouraging parent visits.

One of the best ways to develop parent-school cooperation is to plan for actual parent participation in school health programs. Parents may play an active part in the pre-school round-up program for promoting health examinations and immunization procedures. Parents should be invited to be present when school medical examinations are conducted. In some schools parents are asked to assist with health screening activities such as weighing and measuring children, recording visual screening test results, and similar nontechnical duties. Parents should be consulted when any innovations in the school health program are contemplated. For example, a decision to add dental fluoridation to school health services should be made with the participation of representative parents. Parents are often asked to discuss the content of elementary-school sex education units with responsible school professional personnel. Parents can be asked to cooperate in planning and conducting safety campaigns. Parent-school cooperation in achieving health goals is frequently stimulated by organizations such as the Parent Teachers Association or the local community health council.

One of the most widely used techniques in working with parents is the mailing of notices or bulletins to provide information about school health activities. Because of its impersonal nature, its appli-

cation is limited. Educational bulletins, administrative notices, and requests are useful in dealing with matters such as participation in a group accident insurance plan, announcements of school health events, and clarification of local health regulations. Often, however, such procedures require follow-up by other methods.

The important role of the school in building and maintaining health can be performed satisfactorily only when effective cooperation between the school and the larger community exists. Schools frequently support and assist community health programs such as mass immunization against poliomyelitis, large-scale tuberculin testing campaigns, and pedestrian safety drives. Community leaders and organizations may, in turn, be asked to contribute to the school's health-instruction program. Local doctors, public health personnel, volunteer health agency workers, welfare officers, and hospital staff members may be called upon to provide consultant services or instructional materials. A representative of the local chapter of the American Red Cross may be asked to give a lecture-demonstration on water safety. The police department will be able to aid in the organization of a school safety patrol. A milk-pasteurization plant or food-processing company may be asked to cooperate in planning a field trip for a group of school children.

The best approach to improvement of health in any community is through the coordinated efforts of all community workers; it cuts across organizational lines. The school reaches children from families whose adults are active members of civic organizations. School children use parks and recreational facilities operated by local governmental agencies. Parents eat in local restaurants patronized by adults who do not have children in school. Pre-school children are susceptible to many communicable diseases prevalent in the school population. Concerted efforts by many different interested groups bring better results in solving any local health problem.

An active community health council has proved to be one of the most successful means of coordinating efforts to solve local health problems. Community health councils vary in plan of organization, sponsorship, and membership, as well as functions. Different councils have served effectively as clearing houses for ideas, as core groups for joint planning, as spearheads for vigorous community health campaigns.

The essential basis for school, community, and parent cooperation in developing health education experiences for children is the fact that the child lives and learns as a whole person. We who would guide his health learnings and shape his health habits must work with him as a total individual. We must work closely with others who influence him during his out-of-school hours and who have similar concern for his health education if our efforts are to achieve the desired results.

Summary

Improvement and maintenance at a high level of every child's health status is of primary importance to the individual and to the community in which he lives. Thus, skilled, dynamic, functional health instruction at every elementary grade level is essential. No curriculum area is more vital to a child's present or future well-being.

The classroom teacher is the keystone of the elementary school health program. He must concern himself with the individual health problems of each child in his group. He must participate in the improvement of local school health services to insure that the children gain most from their school experiences. He must guide individual learning toward greater effectiveness through careful attention to healthful school living conditions. He must give to every child the expert health instruction which will lead him to adopt intelligent health practices and to solve his own health problems successfully. Excellent health teaching can be the key to healthier and happier lives.

DISCUSSION QUESTIONS

1. How can one maintain a flexible schedule and still be assured that children learn essential information about health?
2. Describe twenty-five Libertyville, U.S.A., third-grade children. What health needs are they likely to have?
3. How can the principles of health education as summarized by the

Commission on Health in Schools, and quoted in this chapter, be helpful to a teacher?

4. What various means may a teacher use to effect change in health behavior of pupils?
5. To what extent may health instruction grow out of the health services of a given school?
6. How can one define a teacher's responsibility for providing, or contributing to, healthful school living conditions for pupils?
7. What help can teachers expect a school "health coordinator" to give?
8. In what ways can a teacher help parents to care for the health of their children?

SUGGESTED READINGS

Anderson, C. L., *School Health Practice*. St. Louis, Mo.: C. V. Mosby Co., 1956. The classroom teacher will find this volume helpful in clarifying his responsibilities for school health services and healthful school living as well as for health instruction. Several sample resource units for health instruction in the elementary school may provide guidance to the teacher. The book's excellent appendices include resources for instruction classified according to health topics, a school health program evaluation scale, and a suggested survey of healthful school living.

Bauer, W. W., *Your Health Today*. New York, N. Y.: Harper & Brothers, 1955. This book has been selected as a source of health information for the teacher. It covers the usual health topics in a very interesting style with careful treatment of issues often misunderstood.

Byrd, Oliver E., *Health Yearbook*. Stanford, Calif.: Stanford University Press, annual. These yearbooks provide excellent source material for the teacher in keeping up with current health facts. Dr. Byrd annotates many articles on health subjects published each year in leading periodicals. Each yearbook presents a summary of recent findings in approximately twenty major health problem areas.

Byrd, Oliver E., *Textbook of College Hygiene*. Philadelphia, Pa.: W. B. Saunders Co., 1953. This college hygiene textbook is recommended to the classroom teacher as a resource for extending his own knowledge concerning specific health subjects. If Byrd's *Health Yearbook*, using similar subject classifications, is used in connection with it, the teacher can keep abreast of current health knowledge.

Coops, Helen Leslie, *Health Education in Elementary Schools*. New York, N. Y.: A. S. Barnes and Co., 1950. The chief value of this

book to the classroom teacher lies in its sample teaching units for each grade level. It also includes suggestions on curriculum planning and teaching techniques.

- Department of Elementary School Principals, *Health in the Elementary School*. Washington, D. C.: N.E.A., 1950. This yearbook is a collection of selected articles on health in the elementary school. Its chief value is in its descriptions of actual practices in a wide variety of school situations.
- Diehl, Harold S., *Textbook of Healthful Living*. New York, N. Y.: McGraw-Hill Book Co., 1955. This text, like the college texts by Bauer, Byrd, and Schifferes, is recommended for the teacher's use in advancing his own health knowledge. It deals with a wide variety of topics in both personal and community health areas.
- Fields, Morey R., and Edgerton, Avis E., *Teacher's Guide for Health Education*. Brooklyn, N. Y.: Remsen Press, 1949. The teacher who is sincerely interested in improving classroom health education will find this guide of invaluable assistance. It lists expected pupil accomplishments in knowledges, appreciation, and skills by two grade intervals. It also suggests activities to illustrate ways of achieving desired objectives. Its unique feature is the provision of page references for specific health subjects in each of seven leading series of health textbooks. This offers help to the teacher in personal preparation as well as in guiding pupils toward the solution of health problems. This guide also includes excellent appendices of references for the teacher and sources of free material.
- Grout, Ruth E., *Health Teaching in Schools*. Philadelphia, Pa.: W. B. Saunders Co., 1958. This book is an excellent resource for the elementary-school teacher. It provides current information on health needs of the child at different developmental levels. It includes an excellent overview of principles and procedures of modern education and illustrates their application in health teaching. It offers concrete teaching materials and extensive references to specific teaching aids.
- Haag, Jessie Helen, *School Health Program*. New York, N. Y.: Henry Holt and Company, 1958. The author deals with the total school health program in eight related parts: school health services, safe and healthful school environment, school nutrition, community resources, health of school personnel, healthful school day, health and safety instruction, and organization and administration of the school health program. Such pertinent current health topics as gun safety, Salk vaccine, and self-preservation procedures in the event of disaster are included. This is an excellent, up-to-date, and comprehensive reference book for the teacher.
- Irwin, Leslie W., Humphrey, James H., and Johnson, Warren R., *Methods and Materials in School Health Education*. St. Louis, Mo.: C. V. Mosby Co., 1956. This text is an excellent aid in the area of ma-

terials and methods of teaching health; it includes many practical details and specific examples to assist the teacher. Especially helpful topics are teacher observation of the health of children, the relationship of health and safety, material aids to learning in health education including motion pictures, radio, and television, demonstrations, field trips, and dramatizations, sources of health education materials and information, evaluation and appraisal.

Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, *Health Education*. Washington, D. C.: N.E.A., 1948. This publication is recommended to the classroom teacher as his basic reference in undertaking his responsibilities in the school health program. It provides well-balanced coverage of all important aspects of school health education with sufficiently practical specifics. Its value is enhanced by the fact that it represents the joint work of a number of outstanding individuals representing two leading interested professional associations. While the entire volume should prove helpful, exceptionally valuable content includes a presentation of twelve leading health problems, the use of audio-visual materials, the location and use of resources, and excellent descriptions of good practices in school health education.

Oberteuffer, Delbert E., *School Health Education*. New York, N. Y.: Harper & Brothers, 1954. The teacher will find this text a good reference for gaining understanding of the total school health program. It includes a thorough presentation of curriculum planning and teaching procedures and many specific suggestions for school health activities. The teacher will find the chapters dealing with teacher preparation and resources and evaluation especially helpful.

Schiffers, Justus J., *Healthier Living*. New York, N. Y.: John Wiley and Sons, Inc., 1954. This college hygiene textbook can serve as an excellent reference to the classroom teacher who desires an organized and adult-level presentation of health facts. The subject matter includes twenty-five different topics in the four major areas of family living, mental health, personal health, and community health.

Schneider, Robert E., *Methods and Materials of Health Education*. Philadelphia, Pa.: W. B. Saunders Co., 1958. This volume offers excellent concrete and practical help with problems of curriculum planning and organization, methodology, and the selection and use of health-education materials. It includes a particularly clear-cut discussion of the total school health program, an unusual presentation of numerous teaching methods classified as teacher activities, pupil activities, and special programs, detailed and carefully illustrated descriptions of varying types and kinds of material aids to teaching, and an excellent section on evaluation, providing descriptions of specific standardized tests.

Turner, C. E., Sellery, C. Morley, and Smith, Sara Louise, *School Health and Health Education*. St. Louis, Mo.: C. V. Mosby Co., 1957. This book provides an overview of the total school health program with particular emphasis on the teacher's role in school health services. The elementary-school teacher will find helpful suggestions on methodology, resource materials, and evaluation.

ELEMENTARY SCHOOL HEALTH AND SAFETY TEXTBOOK SERIES

ABC Health Series	American Book Company, New York, N. Y.
Health of Our Nation Series	American Book Company, New York, N. Y.
The American Health Series	The Bobbs-Merrill Co., Indianapolis, Ind.
Health for Better Living Series	Ginn and Company, New York, N. Y.
Health-Safety-Growth Series	D. C. Heath and Co., Boston, Mass.
The Road to Health Series	Laidlaw Brothers, Chicago, Ill.
Health-Happiness-Success Series	Lyons and Carnahan, Chicago, Ill.
Your Health and Growth Series	The Macmillan Company, New York, N. Y.
Basic Health and Safety Program Series	Scott, Foresman & Co., New York, N. Y.
The Healthy Life Series	The John C. Winston Co., Philadelphia, Pa.

SUGGESTED FILM

Teacher Observations of School Children (film strip; 43 frames; 33½ rpm disk; 18 minutes). Produced by Metropolitan Life Insurance Company. This film strip offers visualizations of signs of good health and of certain noticeable deviations from it.

SOURCES OF FILMS

Because there are so many excellent films available for use in health instruction and because new and better ones are constantly offered for purchase or rent, it seems unnecessary to list specific films. The

reader is referred to Fields and Edgerton's Appendix II¹⁶ and to the following bibliographies and catalogs:

Bibliography of Public Health Motion Pictures and Film Strips, assembled by Thomas C. Stowell, Assistant Director, Office of Public Health Education, New York State Department of Health, and Anne J. Edmund, Health and Welfare Division, Metropolitan Life Insurance Company, New York, N. Y.

The Blue Book of Non-Theatrical Films, published periodically by Educational Screen, Chicago, Ill.

A Comprehensive Guide to Films on Health and Welfare, See and Hear Magazine, Chicago, Ill.

The Education Film Guide and Filmstrip Guide, H. W. Wilson Company, New York, N. Y.

Educator's Guide to Free Slide Films and Educator's Guide to Free Films, published by the Educators' Progress Service, Randolph, Wis.

Health Films Catalog (1947) and Recent Health Films (1950 Supplement), Educational Library Association, New York 19, N. Y.

An International Index of Films and Filmstrips on the Health and Welfare of Children, prepared by the United Nations Educational, Scientific and Cultural Organization and the World Health Organization, Columbia University Press, New York, N. Y., 1950.

A List of Sources of Films on the Subject of Health, Committee on Medical Motion Pictures of the American Medical Association, Chicago, Ill., December, 1951.

¹⁶ *Op. cit.*, pp. 508-543.

Teaching Physical Education

ELEMENTARY-SCHOOL TEACHERS can teach physical education and do it well. Many do. Classroom teachers have a distinct advantage over special teachers: they know their pupils; they have interest in, and accept responsibility for, the total growth and development of each pupil.

What characteristics and abilities does one need to teach physical education well? Four are: (1) sufficient knowledge of physical education to permit the teacher to feel secure; (2) interest in children's play and physical performance; (3) belief in physical activity as a means of physical, social, and emotional development of elementary-school children; (4) ability to derive satisfaction from the physical achievements of pupils.

The purpose of this chapter is to help future or present classroom teachers prepare to teach physical education. To that end it identifies a good program, classifies major types of activities, describes skillful ways of teaching them, presents nine essentials of good teaching, and suggests additional resources.

A Good Program

A program is good if all pupils make satisfactory progress toward purposes for which the program exists. The objectives of physical education are:

1. To promote physical growth, development, and maintenance through activities that develop strength, vigor, vitality, skills, and coordinations leading to ability to do the day's work without undue fatigue and to have additional energy for out-of-work personal and social accomplishment.
2. To contribute to the development of social competencies in the areas of relationships with others, cooperation, competition, tolerance, ethical character, and recognition of the fundamental worth of each individual.
3. To promote emotional development through contributions toward individual adjustment, emotional self-mastery, adjustment to others, relaxation, satisfying self-expression, confidence, poise, and freedom from excessive self-confidence.
4. To provide healthful and integrating recreation for the present as well as to lay bases for wholesome, life-balancing recreation in the future.
5. To promote healthful living through contributions to health habits, attitudes, ideals, and information that lead toward elimination of unnecessary strains, drains, and illnesses, and that enable one to protect oneself and others during times of lowered vitality or illness.
6. To help each pupil establish appropriate balances between work, play, exercise, rest, recreation, and relaxation in daily living.¹

All six objectives are, of course, important. However, special attention is called to two things which elementary school physical education should emphasize. One is muscular development, for which physical education has a unique responsibility. The other relates to social and emotional development. To youngsters physical ability is so important that children who feel inferior in that area often develop a sense of inadequacy and lose status in the eyes of their peers. For this reason it is highly important that physical education should give all pupils opportunities to achieve success.

¹ By permission from *Teaching Methods for Physical Education* by Knapp and Hagman. Copyright, 1953. McGraw-Hill Book Co., Inc.

All children, extreme deviates excepted, need physical activity for healthy growth, for development of strength, vitality, and co-ordination. Schools should provide for about an hour of physical activity daily. Approximately thirty minutes of the hour should be in physical-education classes, the rest may be provided through supervised play during recess, noon-hour, or after school.

A good program provides for physical, neuromuscular, recreational, social, and emotional development through appropriate activities at all grade levels. Starting with simple activities in the lower grades, there should be progress to more difficult and complicated skills as the child matures and increases his skill. Before proceeding to consider each of twelve types of activities, let us characterize, in general, activities which lead to needed development at various grade levels.

For developing *physical strength* excellent activities for the first three grades include running, jumping, hanging, climbing, group games, rhythmical activities, apparatus stunts, and relays. In the fourth, fifth, and sixth grades there should be frequent and quite rigorous exercise. Continued participation in the activities appropriate for the first three grades is wise, so is the addition of more conditioning activities such as push-ups and pull-ups and more complicated games. For seventh and eighth graders there should be team games, conditioning activities, apparatus stunts, individual and dual games, and track and field sports. Since pupils of this age may tire easily during periods of rapid growth they should be protected from overexertion.

For *neuromuscular development* children in the first three grades should have activities in which large muscle action is dominant. Some movements requiring use of smaller muscles should be introduced gradually. Running and chasing games, throwing and catching bean-bags and balls, creative rhythms, kicking balls, lead-up games, skipping, and rope jumping are all developers of neuromuscular skills for children of six to nine years of age. In the fourth, fifth, and sixth grades there should be jumping, throwing, catching, batting, tumbling, lead-up games and some team sports, individual games, and apparatus work for neuromuscular development. In the seventh

and eighth grades baseball, soccer, basketball, volleyball, badminton, handball, paddle-tennis, and tennis are excellent.

For *recreational development* activities should be chosen that are popular with children. Included among school activities should be some which children can use in homes and neighborhoods. Pupils in the earlier grades are likely to find joy and satisfaction in lead-up games, individual and dual activities such as hop-scotch and rope jumping, group games, singing games, and swimming. Fourth, fifth, and sixth graders will like more complicated lead-up games and team and individual sports. A problem at these ages exists because children want to play the popular sports although they lack adequate skills for them. A solution is to encourage attractive lead-up games. For seventh and eighth graders team and individual sports, especially those which are included in the community recreation program, will be attractive and appropriate.

Social and emotional development for children in the first three grades calls for games and activities which require some cooperation but not much team play. Circle games, Pom-pom Pullaway, apparatus activities, rhythms, and stunts are all of value. For the intermediate grades (fourth, fifth, and sixth) lead-up games, team games, folk dances, and other activities requiring cooperation are in order. Seventh and eighth graders develop socially and emotionally through team games, dancing, and other activities in social settings which encourage better adjustment to the opposite sex, cooperation, and tolerance.

A good physical-education program increases the over-all effectiveness of learning in at least two ways. First, the release of physical energy, the recreation, relaxation, and change of pace provided by physical activity help to ready pupils to study under sedentary conditions. Second, through physical education pupils may expand and fix concepts, ideas, and information concerning health, music, numbers, language, arts, science, and social studies.

Some examples of this general learning through physical education are:

Through physical education children expand their knowledge of health by learning about the kinds and amounts of exercise

which contribute most to their own health, and about their own limits, ability to pace themselves, and the advisability of restricting exercise during periods of lowered vitality.

Music and physical education go hand-in-hand as pupils increase their sensitivity to rhythm through muscular response to music. Score keeping, measuring lengths of jumps and throws, learning distances, and so on, provide practice in the use of numbers. Children practice listening, reading, writing, and speaking as they listen to explanations given by the teacher or other children and, read, write, and speak about games, exercises, dances, and other physical-education activities.

Scientific information about living beings increases as children learn more about the functioning of their own bodies.

Knowledge of social studies increases as pupils learn that some of their games and dances come from the folklore of various countries.

The major activities of elementary-school physical education include: posture development, conditioning activities, apparatus or playground equipment activities, rhythmical activities, mimetics, group games, tumbling and stunts, lead-up games, relays, team sports, individual and dual sports, and track and field sports. The physical education program should assure participation in each of these by completion of the eighth grade. Not all should be included in each grade.

Posture Development

Good posture while standing and sitting is almost always present when one stands or sits "tall." When one "reaches for height" his back tends to be straight, there is only a small curve in the low back area (lumbar curve), the shoulders tend to be square with no drooping or forward thrusting, the head is erect with the ear vertically above the mid-point of the shoulders and hips, and the stomach is flat.

Good walking posture always is present when one "reaches for height" and, in addition, uses his legs, arms, and feet properly. In

most cases children use their arms and legs quite satisfactorily while walking: they step straight forward and swing their arms and legs alternately, i.e., right leg forward while the left arm is backward, and vice versa. But children need considerable help in learning to use their feet properly when walking. The toes should point forward, the heel should touch the walking surface first, the weight should be inclined toward the outside of the foot, and the toes should be active, providing some of the pushing-off force as the foot leaves the walking surface.

One who uses good posture achieves good balance among the various parts of his body. Good posture is economical of energy. It tends to eliminate compensations and strains produced when the body parts are not in good alignment, when they are out of balance. Just as improperly aligned wheels on an automobile cause strain resulting in damage to the wheels and excessive and uneven tire wear, so improper alignment of the human body produces strain. Poor posture, especially excessive curve in the low back area and accompanying abdominal protrusion, is a frequent cause of backache. The lower back should be almost straight, it should have a mild curve but never a "sway-back" effect; the abdominal muscles should be drawn in and left mildly contracted when sitting, standing, or walking. Poor posture also may cause other distortion in the spinal column with painful results; there may be lateral curvature with attendant compensatory muscular strain, stooped shoulders (kyphosis) and accompanying flat chest may cause strain, and poor head and neck position may produce pain.

Feelings are related to posture both as causes and results. Posture reflects feelings and it helps to produce them. Hence remediation promotes physical and mental health as well as imparting information and teaching good habits.

Teaching and encouraging good posture is worthwhile both for psychological and for health reasons. Sitting, standing, and walking straight and tall promotes feelings of well-being, it helps one see the more cheerful things of life. Poor posture encourages feelings of dejection and produces strains which not infrequently cause pain such as the backache referred to in the preceding paragraph. (Incidentally, one who teaches good posture will find his or her own

posture, outlook, and general health improved, because teaching it makes one conscious of personal postural habits.)

What can elementary-school teachers do to teach and encourage good posture? They can recognize its importance and realize that—as in teaching citizenship, adjustment, or character—the teaching of posture requires more than seeing that pupils can answer questions and pass examinations. It requires frequent practice to keep pupils aware of their own postures.

Classroom teachers can give information concerning good postures in the rather simple terms of sitting and standing straight, pulling the “tummy” in, and using the feet properly. They can call attention to posture whenever it seems appropriate to do so, which is frequently. They can use pictures and diagrams depicting posture, or some of the films listed at the end of this chapter may be shown. They may have children do things such as write slogans, make posters, or present skits. They can teach posture during all school work. Reading and writing in slumped positions may lead to poor habits; posture ties in with music very well. Teachers should note the postures of pupils and teach them individually as needed. Probably the most effective single thing a teacher can do to encourage pupils toward good posture is to set a good example.

Two more specific teaching aids are suggested. One is to have the pupil carry a book on his head. When one can balance a book on his head while walking he can be reasonably sure that his carriage represents good posture at that time. The other—which will be available only to some teachers—is to have children note how they use their feet when they walk on ice or very slippery surfaces. Under such conditions one uses his foot musculature well and his toes will grasp as they should in walking.

Conditioning Activities

The term *conditioning activities* is applied to activities engaged in primarily for the purposes of developing muscular tone, strength, and endurance and for promoting good posture. In a very real sense all physical activities—rhythmical activities, games, relays, stunts,

etc.—have conditioning aspects. Muscles develop through use, and any activity which taxes one or more muscle groups serves to develop tone, strength, and endurance. However, there is need for activities which serve primarily the purpose of muscular conditioning.

Generally speaking, children in our country have rather well developed leg musculature but inadequate abdominal, back, shoulder, and arm strength. Play activities common and popular in our culture call for a substantial amount of running but do not provide sufficient use of muscles above the legs. A good physical education program ensures development of the upper body.

Among activities valuable for conditioning are hanging, calisthenics, and the exercises called sit-ups, V-lifts, push-ups, and pull-ups. Hanging—supporting the body weight with one's hands grasping an overhead structure—is excellent for developing hand and arm strength and for posture. Pediatricians recommend it for children. It is an especially valuable and appropriate physical education activity for pupils in the early grades. Playgrounds and gymnasiums equipped with bars, rings, horizontal ladders, and “jungle gyms” (climbing apparatus) permit and encourage hanging. Teachers should develop interest in hanging by explaining its value and by having pupils hang frequently during physical-education classes, recess, and free play. As youngsters develop sufficient arm and shoulder strength they will be ready for traveling on multiple rings or horizontal ladders. Further reference to this will be found below in the section on apparatus or playground equipment activities.

Calisthenics have the advantage of ensuring exercise for all large muscle groups as well as of providing means for exercising specific muscle groups which may need attention. Not all educators recommend calisthenics, apparently on the basis that calisthenics do not appeal to children and require regimentation. Whether or not calisthenics appeal to children in a given community depends to a considerable extent upon past experiences. When youngsters have had pleasant experiences in this activity they tend to like it. Pleasant experiences are likely when calisthenics are taught during frequent brief periods, especially when there is musical accompaniment. Whether or not regimentation is excessive depends upon the method of teaching.

Teachers may work calisthenics into the program in two ways. One is to have occasional "exercise breaks" of a couple of minutes. The children, after being engaged in sedentary pursuits for some time, perform one or more stretching or bending exercises in the classroom. Teachers may find pupils more alert and more ready for other school activity after such brief "exercise breaks," which may do as much for children as "coffee breaks" do for adults. The second way to introduce calisthenics is to have them for a brief period at the start of a physical-education class. In addition to providing developmental exercise for various muscle groups this method has the advantage of "warming up" the muscles for further physical activity.

Teachers need not teach calisthenics in a regimented atmosphere by using military formations and commands. Positions that pupils need to be in for the activity to follow usually provide an opportunity for some calisthenic exercise. For example, if a circle game is to follow, children may get into a circle or several circles and do a few exercises. Having one pupil perform the exercise in the center of a circle sets a rhythm for the rest to follow. Hand clapping by the teacher is satisfactory for establishing rhythm; drum or tom-tom beating or musical accompaniment is even better. Children may count or sing as they do calisthenic exercises; one child may lead.

Teaching exercises requires little or no explanation. Demonstration usually suffices. If the teacher does not wish to demonstrate, a pupil can do so with a bit of prior help from the teacher. Children frequently ask to do this and not infrequently ask if they can demonstrate a particular exercise which they have "created" or have learned out of school. Using pupils as teacher-helpers both facilitates learning and provides worthwhile leadership opportunities.

Five good exercises which are appropriate for all grade levels (for adults including teachers, too) are:

1. STRETCHER

A two movement exercise starting from a standing position with the feet about four inches apart and the toes pointed slightly inward. *First movement*: rise on toes and raise arms high overhead; *second movement*: return to starting position. This, like other calis-

thenic exercises, should be continued until the performers are slightly tired; not all class members need be required to repeat the exercise the same number of times; those who tire easily may stop while others continue.

2. BENDER

A two-movement exercise starting from a standing position with the feet a few inches apart. *First movement*: keeping the knees straight, bend forward touching the toes with the fingers (children who cannot do this should come as close as they can); *second movement*: return to original position. This exercise may be varied as follows, to provide for more stretching and relaxing of the back and leg muscles and for development of more flexibility in the spine and hip joints: after the first movement, instead of returning to the starting position immediately, raise the trunk until the fingers are about a foot above the toes, then touch the toes again, and repeat this short movement several times, using a rhythmical "bobbing" sort of movement, before returning to the starting position.

3. KNEE RAISER

A four-movement exercise starting from a standing position. *First movement*: raise one leg, trying to get the knee as close to the chest as possible, grasp the leg a little below the knee with both hands and pull it closer to the chest; *second movement*: return to starting position; *third movement*: repeat the first movement with the opposite leg; *fourth movement*: return to starting position. This exercise may be varied by starting from lying on the back; from this position it may be varied further by raising both legs simultaneously instead of each leg alternately.

4. BODY BENDER

A four-movement exercise starting from a standing position. *First movement*: bend the trunk straight to one side (the fingers of the hand on the side to which the trunk is bent should then be about at the knee); *second movement*: return to starting position; *third movement*: repeat the first movement but to the other side; *fourth movement*: return to starting position.

5. LEG RAISER

A four-movement exercise starting from a standing position with hands on the hips. *First movement*: raise one leg sideways as high as possible; *second movement*: return to starting position; *third movement*: repeat the first movement with the opposite leg; *fourth movement*: return to starting position. Other leg-raising exercises start from lying on the back. In this position legs may be raised upward alternately or both at once.

The conditioning exercises called sit-ups, V-lifts, push ups, and pull-ups require greater muscular exertion than do the calisthenic exercises described above. For this reason they are superior for developing strength and endurance. They may be taught, and pupils may practice them, either indoors or on a playground. They should be used as a part of a lesson. Teachers should encourage pupils to do these exercises during free time at recess and at home.

1. SIT-UPS

A two-movement exercise starting from a position of lying on the back. *First movement*: the performer raises his trunk and touches his toes with his fingers (those who can not do this should come as close as they can); *second movement*: return to starting position. Because it is not easy to do this without raising the legs it is advisable to have pupils work in pairs with one holding his partner's legs to the floor while the other performs the exercise. Sit ups may be done either with the legs straight or with the knees bent and the feet on the floor. Children who cannot do a straight-leg sit-up rather easily should not be encouraged to try, and instead should do bent-knee sit-ups.

2. V-LIFTS

A two-movement exercise starting from a position of lying on the back (this exercise should not be done rhythmically). *First movement* raise the trunk and the legs, coming to a sitting position with both the trunk and the legs held in the air, hold this position as long as possible, as it is this part of the exercise that produces the strengthening; *second movement* return to the starting position.

3. PUSH-UPS

A two-movement exercise starting with a position called "front support," with the hands and toes on the floor, the arms straight, and the body forming a straight line from feet to head. *First movement:* bend the arms and lower the body until the chin and chest are close to but not touching the floor; *second movement:* push back to the starting position by straightening the arms with a forceful movement. Not all children can do this. Those who cannot should start from a position of knees and hands, instead of toes and hands, on the floor or ground. This changes the leverage and makes the exercise easier.

4. PULL-UPS

A two movement exercise, sometimes called "chinning," starting from a hanging position with the hands grasping an overhead bar or rung, and no part of the body touching the floor. *First movement:* the body is pulled upward by forcefully bending the arms, until the chin is just above the bar or rung; *second movement:* return to starting position. Many children are unable to do a pull-up. Those who cannot will develop arm and shoulder strength by hanging and by pulling the body up as far as possible, or by pulling the body from a leaning to a vertical position—which is highly recommended. Not all children should be expected to be able to do a pull-up, and this exercise should therefore not be started until the intermediate grades.

Apparatus or Playground Equipment Activities

Gymnasiums equipped with bars, rings, ladders, trampolines, ropes, etc., provide a place for teaching apparatus activities. Customarily, however, classroom teachers find only playground equipment available for teaching apparatus activities.

Too frequently teachers only supervise children while they do whatever they wish to on various pieces of playground apparatus. Children's enjoyment and concomitant physical development increase when they learn and perform various stunts. To youngsters,

successful accomplishment brings a glow of satisfaction; it is important to the child to test himself and find himself adequate.

Among stunts which children should be taught are:

1. TURN-OVER

While grasping a bar with the hands turn the body over the bar; bend forward at the hips and the rest of the body will follow.

2. MONKEY SWING

While hanging, swing the body back and forth; get the force both by pulling with the hands and by swinging the legs and trunk.

3. CLIMBING A POLE OR ROPE

Climbing is easier when the elbows are kept bent and never permitted to become fully straight. Grasping the pole or rope between the feet helps.

4. KNEE HANG

Grasp a bar with the hands; raise the knees until they are near the chest; lower the head and shoulders and straighten the legs, passing them between the bar and chest; hook the bar with the backs of the knees; release hands and hang by the knees.

5. KNEE SWING

Swing from the knee-hang position; momentum is supplied by swinging the arms and trunk.

6. SKIN THE CAT

Grasp a bar with hands; raise the knees and lower the head and shoulders; bring legs up and backward underneath the bar and lower them as far as possible; return body to original position.

7. LADDER TRAVEL

Grasp the first rung of a horizontal ladder; travel across it by grasping the next rung with one hand, the next one with the other, etc.; swing the body back and forth as you go from rung to rung. Variations include travel without swinging and grasping only every second or third rung.

8. RING TRAVEL

Grasp the first two of a series of rings suspended on chains or ropes, gain swinging momentum by pulling and swinging back and forth once or twice; release hand from the first ring, swing and grasp the third ring, etc., to the last ring (usually there are six). Variation may be added by grasping the first ring with only one hand, swinging to the second, and continuing as above.

9. PULL-UP OR CHINNING

Grasp bar and hand with arms straight; pull body up until chin is above bar; repeat as many times as possible.

10. PENNY DROP

Hang on a bar by the knees (Number 4 above); swing, gaining momentum by swinging the arms and trunk. After several swings release the knee hang by straightening the legs and land on the feet; the knee hang should be released by straightening the legs just before the maximum height of the back swing is reached (the performer then will be at about a 45° angle to the bar with his face toward the ground—or mat if in a gymnasium. Although this is not hard to do it may be difficult to “catch onto it”; when first teaching it the teacher should help by placing a hand on the chest of the pupil and applying a mild force to make sure that the pupil does not fall without landing on his feet.

11. KNEE UPSTART

Grasp a bar with both hands and then pass one leg between bar and body and place the back of one knee on the bar. By swinging a little, snapping the free leg downward and backward forcefully, and pulling with the hands, come to a position similar to sitting on the bar with one leg, with the arms straight.

12. SINGLE KNEE CIRCLE

From the position arrived at by the Knee Upstart turn backward completely around the bar and come back to the original position. This is accomplished by placing the back of the knee (not the upper part of the leg) on the bar, forcefully swinging the body backward and downward as the hands push the bar to add mo-

mentum, and then pulling with the hands as the body makes its upward rise.

One can hardly advise specific grade levels for these stunts because their successful execution depends largely upon experience. Generally speaking, the first six are appropriate for first graders and the others can be added as children gain experience and the necessary strength. Classroom teachers find little difficulty teaching the first nine; the last three should be introduced only by a teacher who feels quite secure with them.

The stunts described purposely emphasize supporting the body weight with the hands and arms. This is done because of the importance of developing arm and shoulder strength, as we have emphasized in the section on conditioning activities. Popular games and relays as well as children's free play provide considerable running, jumping, throwing, and catching but not sufficient development exercise for the arms and shoulders.

School apparatus should include such things as bars and rings on which pupils can support their weight by hanging, swinging, and climbing. Four of the eight pieces of playground apparatus recommended as a minimum for elementary schools by a National Conference of Facilities for Athletics, Recreation, Physical and Health Education² provide this kind of exercise. They are: climbing structure (such as a "jungle gym"), horizontal ladder, horizontal bar, and traveling rings. (The other four are: balance beam, see-saws, swings, and a slide.)

The reader will note that the only apparatus activities specifically described are performed on bars, rings, and horizontal ladders. Others will be found in sources suggested by the selected references. Also, all or almost all teachers know how to get children started on climbing structures, balance beams, see saws, swings, slides, and imaginative nonstandardized play structures which are appearing in increasing numbers on school playgrounds.

How does one go about teaching apparatus activities? The important thing is to see that all pupils participate, that they get started doing what they can and gradually increase their repertoire. Although

² National Facilities Conference, *Guide for Planning Facilities for Athletics, Physical Education, Health and Recreation*. Chicago, Ill.: The Athletic Institute, 1208 South State Street, 1947.

"showing how" is a highly effective means of teaching these stunts, many classroom teachers will not want to perform them or are not able to do so. Children will learn a great deal from each other. After a teacher has started one pupil, the rest will learn by watching classmates and helping one another. Teacher encouragement heightens motivation.

To assure safety, teachers should teach children how to use apparatus, establish regulations concerning taking turns and keeping away from apparatus being used by others, and teach children to cooperate in protecting others. The area should be free from unnecessary hazards such as sticks, stones, uneven ground, water pipes, or raised and protruding objects. Defective apparatus should be removed from use or repaired immediately.

Mimetics

Mimetics (imitating) are enjoyable, providing both exercise and creative self expression. Imaginative teachers and pupils may think of many things to imitate through movement. Youngsters may express themselves creatively as they interpret and respond with their own impressions and thoughts.

Some mimetic activities adapt themselves well to "exercise breaks" (see "Conditioning Activities"). Two which do so are:

1. MAKE A TREE

Children do things such as squatting down low and rising and stretching up to illustrate a tree growing. As they "grow" they may thrust their arms in various directions to make the branches and finish by rising on toes and reaching as high as they can.

2. MAKE A FLAG

Pupils may "sew on the stripes" by reaching to the floor with one hand and then making a long sweeping motion with the arm and body. One arm may be used for white stripes, the other for red. They may "punch in the stars" by hitting with alternate fists. Or they may choose any movements which to them make a flag.

Some mimetics may be performed in moving line formations. Teachers may arrange pupils in one or several single files and have them move around the classroom or gymnasium or playground as they do mimetics, such as:

1. WALK LIKE AN ELEPHANT

Pupils may bend forward, using their arms for the elephant's trunk, and walk stiff-legged with their feet wide apart. They may interpret in various fashions; the only limitation is that in moving line formations all children must move forward at about the same rate.

2. WALK LIKE A DUCK

Pupils may squat and waddle and quack, etc.

3. HOP LIKE A RABBIT

Pupils may use their arms for front legs and try to place their back feet ahead of where their front feet touched the floor as they "hop" forward.

4. GALLOP LIKE A PONY

Pupils may use their arms as front legs and "gallop."

5. BUCK LIKE A HORSE

Pupils may move forward on "all fours," making occasional jerky and fast upward and downward movements. (Children may want to "ride" each other. This may be satisfactory if done on soft surfaces and with rather close supervision. However, some consider this dangerous; good advice to teachers is "if in doubt don't permit it.")

Rhythmical Activities

Rhythmical activities are important for children because they encourage coordination, graceful movement, social competence, emotional self-expression, and recreational satisfaction. They should be

used generously in the elementary school, especially at the primary level. Probably about one-fourth to one-half of the total time devoted to physical education in primary grades should be allotted to rhythmical activities. In the intermediate grades somewhat less time may be allotted.

Appropriate rhythmical activities range from clapping to familiar nursery rhymes through dancing. They include walking, running, skipping, leaping, hopping, galloping, and performing various exercises of the calisthenic type to the rhythm of counting, clapping, drum or tom tom beating, records, piano, autoharp, or other music. They also include rope jumping, ball bouncing, singing games, mimetics (imitations), folk dances (square dances are American folk dances), creative rhythm, creative dance activities, and social dance.

How should a teacher go about teaching rhythms? First, of course, one must decide what to teach. Because this chapter does not lay out a program of activities for the various grades, the teacher who lacks familiarity with rhythms and dance will need to consult other sources. Two very helpful ones listed among the selected references are *Rhythmic Activities* by Frances R. Stuart and John S. Ludlam, and *Dance in Elementary Education* by Ruth L. Murray. The first presents 50 singing games and folk dances (Series I, for primary grades) and 50 folk dances (Series II, for intermediate grades); it has the advantage of describing each activity on a separate card which may easily be used while teaching and which may be posted on a bulletin board for children to read; also the music for each activity is on a separate card for convenience. The second, a book devoted to dance for elementary-school children, describes many dances, gives help in the teaching of them, and presents a rationale concerning the place and value of dance in elementary education. Further resources include various books on rhythm programs and on elementary-school physical education which appear among the selected references at the end of this chapter.

Guides or cues as to what to teach should be taken from the pupils—from their abilities, experiences, capacities, and interests. Generally speaking, primary-grade programs should include nursery rhymes, mimetics, walking, running, hopping, and skipping rhythmically, singing games, rope jumping, square and other folk dancing,

and creative rhythms, with the children expressing themselves and their feelings by doing their own interpretations of music. Intermediate-grade activities should, usually, give considerable attention to folk dancing and should repeat whatever primary-grade activities seem appropriate for the particular group; grades seven and eight should be introduced to social dancing while continuing with other rhythmical activities.

Pupils learn the movement concepts of these activities more readily through visual than through auditory perception. Teacher or pupil performance of movement promotes rapid learning; encouragement and suggestions from other pupils prove highly effective. Diagrams and pictures are helpful. Encouraging pupils to watch older children, high-school students, and adults perform is worthwhile. Television programs showing rhythmical activities may promote both learning and motivation. The teacher will find it very effective to perform with the pupils; the children learn faster and enjoy the activity more. Usually the teacher also enjoys such participation, although he may be reluctant to get started.

Records are a great help in teaching rhythms. Children enjoy following cues from rhythm records. They find pleasure in the music and movement; their feelings of well-being and joy increase as they express themselves according to their own interpretations. Use of rhythm records not only helps pupils develop rhythmical movement but also aids in muscular development and posture as children run, hop, skip, dance, bounce balls, jump ropes, "row a boat," "ride a bicycle," etc. Either the classroom or a gymnasium or playroom provides an appropriate locale.

Available rhythm records include numbers for beginning, intermediate, and advanced pupils. For instance, one album³ includes: a series of fundamental rhythms of walking, running, hopping, jumping, animal and toy rhythms, and play and character rhythms; a series for combinations of "up and down," "round and round," "fast and slow," "walk and hop," "run, hop, and stop," "walk and skip," "ball bouncing," "rope jumping," and "interpretative and dance rhythms"; a series on more advanced rhythms appropriate for inter-

³ Ruth Evans, *Childhood Rhythm Records* (see selected references on Rhythm and Dance Records).

mediate grades; and a series which applies rhythmic patterns to dance. Also available are square-dance records which include the calls. Sources for several records are listed and briefly described in the selected references.

It is important that the class be organized so that all pupils can participate and avoid interfering with each other. Letting children take whatever position each wishes in a circle or line produces good results; usually several circles or several lines prove better than single ones. For walking, running, skipping, etc., "follow the leader" with several lines is excellent. Dividing a class into several groups engaged in different activities such as rope jumping, skipping, and mimetics works out very well, especially from the standpoint of using available equipment and facilities economically. Permitting pupils to lead and share in teaching becomes highly effective when requisite pupil ability exists or can be developed.

Prospective teachers of dance and rhythms of all kinds will find it helpful to consider the following twelve suggestions made by Knapp and Hagman.⁴

1. Demonstration by the teacher or by a pupil or group of pupils is an important step in helping get a picture of rhythmic movements. When predetermined steps are to be learned, demonstration sets a pattern; when variety of creative expression is the goal, illustrative demonstration stimulates imagination. For creative rhythms, however, emphasis is placed on moving to inward responses to stimuli rather than imitation of outward forms.
2. Preliminary explanation should be brief. Interesting information about history and use provides worthwhile motivation.
3. The class should be permitted to perform immediately after brief demonstration and explanation.
4. Analysis of performance indicates what further demonstrations and explanations are needed.
5. Pupils should feel that they are performing and achieving—that they are dancing rather than preparing for dancing at a later time.
6. Opportunities for individual practice of steps should be provided; self-conscious pupils need special help.
7. Diagrams, illustrations, and information placed on bulletin boards or blackboards and in mimeographed material help pupils to understand movements new to them.

⁴ Clyde Knapp and E. Patricia Hagman, *op cit*, pp 301-302.

8. Listening to the music and to beating or stamping of the rhythm, seeing a diagram of the rhythm, and clapping or stamping the beat help pupils appreciate tempo, accent, and phrasing.
9. For beginners in partner dancing, short dances and mixers should ensure frequent changing of partners.
10. Correlation of dancing with other schoolwork such as geography, social studies, sewing, music, and art is beneficial for multiple school areas because it enriches the experiences of students.
11. Dance instruction should be correlated with extraclass opportunities to dance at school parties, at home, at community events, and the like.
12. Rhythmical accompaniment is important. Counting or clapping or stamping may be employed successfully for fundamental rhythms and for early introduction to dances. Music of good quality is superior for most rhythmical work.

Group Games

Group games such as Dodge Ball, Three Deep, End Ball, Partner Tag, and Circle Chase have simple rules, can be played with a minimum of explanation and practice, and are adaptable to varying numbers of players. They provide wholesome exercise, fun, and opportunities to learn about cooperation and competition. They represent a laboratory for group living—they are, in fact, group living in action. They develop strength, coordination, and agility, and teach skills, such as catching and throwing, needed for more highly organized games.

Children should learn many such games and have many opportunities to play them. About one-fourth of the total physical education time should be devoted to such games in the early grades, with a lessening of concentration upon them in the later grades as pupils develop sufficient skill to play more highly organized games such as softball, volleyball, basketball, soccer, handball, and tennis.

Almost all elementary-school physical-education books describe numerous group games and indicate the grade level for which they are recommended. Courses of study or curriculum guides provided by many school systems also present many games of this type. However, the name "group games" is not always used; names used by

various authors include "games of low organization" and simply "games." Every teacher should have access to one or more sources from which he can select games for his pupils.

It is helpful to have game descriptions on cards which can easily be referred to and shown to pupils. A teacher can build his own file of games by making notes on cards; several teachers can pool efforts in making such a collection; or the whole faculty of a school may cooperate. Some school systems have collections of game descriptions on individual cards for distribution to several schools, thus giving teachers substantial help; they are usually prepared and duplicated by a supervisor or consultant who selects games which have been found desirable by teachers in the schools involved. A commercial publication presenting games on individual cards is *Games for the Elementary School* by Hazel A. Richardson (see the selected references).

Teachers face no problem in locating games to try out. But they do face a problem in selecting appropriate games for a given group of pupils. Children develop differing tastes in group games because of their experiences in schools, homes, camps, neighborhood play groups, and playgrounds. It is not uncommon for a teacher to introduce a new game and find that children are not attracted to it. Such a game may "take hold" after several trials; if not, discarding it may be wise.

Games to be played in a classroom must limit motion. Those which require running over large areas or in zig-zig directions, such as Pom-pom Pullaway, cannot be selected. Many games, however, are satisfactory. A source especially valuable for locating them is *Classroom Activities* by Frances R. Stuart, which is available from the American Association for Health, Physical Education, and Recreation at nominal cost.

Because it is difficult to predict what new games will become popular, teachers sometimes face a decision concerning whether to make a determined effort to develop pupil interest in new games or let pupils play the ones they know and love. When making this decision one should recognize both the value of playing familiar and already loved games *and* the responsibility to broaden the skills and interests of children, to help them expand their horizons. The

recommended solution is to teach for further development in already familiar games a good deal of the time but to require that pupils also learn new games. In the intermediate grades playing several familiar games while learning one new one is sound procedure, as is teaching at least two new games each month. In the primary grades it is necessary to teach new games more frequently to build the pupils' background of experience.

Teacher enthusiasm has more effect upon success in teaching games than any other one factor. It has a good deal to do with what games become popular with pupils; interest tends to become high in those activities which have been taught enthusiastically.

Explanation should be limited to key points; try-out play should come soon. Children will learn as they play and teaching can be directed to where it is needed. Long explanations before playing are likely to deal with things that can be understood only with considerable difficulty at that time but which can be grasped easily after playing experience.

It is very wise to explain games and organize groups for playing them in the classroom before going outdoors or to a gymnasium or playroom to play the games. Classrooms are appropriate places for explanations and discussions; readily available chalkboards prove helpful for diagrams and illustrations. In the classroom pupils are likely to pay close attention to verbal description. When youngsters get on a playground or in a gymnasium it is natural for them to want to run, play, and yell. Thus, the teacher who requires pupils to be quiet and listen as soon as they get to a play area requires them to act against their natural inclinations. When preparations are made in the classroom before going to the play area, games can start immediately, and disciplinary problems will be largely eliminated.

Teachers often have too many children playing in one game, such as Circle Chase, which calls for a limited number of players to be active at one time; two players may be running while twenty-eight are standing hoping to become runners. This problem can be solved by having several games progressing simultaneously. Not only can active participation be increased in this manner but also more

opportunity for pupil leadership and sharing in teaching can be provided.

Helping all pupils to participate is a part of good teaching. Games which call for elimination of players when they are tagged or hit by a ball should be used sparingly. Children eliminated early usually are those who most need the activity for physical development, for practice which will make them better players and more acceptable to their peers. Rules of games which call for elimination can be and frequently are modified to keep all in a game. For instance, instead of players who are hit in a dodgeball game dropping out they can join the other team and continue play.

Leadership and teaching abilities among pupils should be noted and developed. When several games are being played different pupils may lead each. With a limited amount of teacher help before a class starts, pupils can lead games surprisingly well. Furthermore, frequently children who have learned a game can teach it to their classmates. In many instances games introduced in this way have become popular even though the teacher did not know the game before learning it from a pupil.

Teacher participation in games (as in the case of rhythms and dance) is highly effective in the development of interest and motivation, which in turn results in more participation and therefore more learning.

A game should be ended when the children are still interested in it. The teacher should avoid continuing until players have lost interest. Usually several games or a game and some other type of activity should be included in a lesson or a class period.

Tumbling and Stunts

Tumbling includes front rolls, back rolls, double rolls, cartwheels, headstands, handstands, and other activities. These are frequently called tumbling stunts. The word "stunts" is used for a great many things, such as: jumping over a stick held in the hands, hold-

ing a toe with the opposite hand and jumping through with the opposite leg, heel clicking in the air, jumping to a stand from a kneeling position, jumping and touching hands to toes, making a bridge, picking up a piece of paper without bending the knees, lying on the back and holding the body stiff while a partner lifts the body to a standing position, various animal walks done with partners, and standing on one's head with the head on a partner's stomach and the hands on his bent knees.

Tumbling stunts may be done on grass; most of them require a mat if done indoors. Two that do not are cartwheels and handstands. Most pupils like the handstand. All or almost all youngsters can learn to stand and walk on their hands if they practice frequently. Three ways to get pupils started are:

1. Have them stand with their backs against a wall; place their hands on the floor; place their feet on the wall; work their feet up the wall as they work their hands closer to the wall. This helps to develop ability to balance as well as the arm strength necessary to stand and walk on the hands.

2. Have them work in pairs. As one attempts to stand on his hands the other, standing nearby at one side, helps by grasping one or both legs of the performer to help him maintain balance and by giving encouragement and offering suggestions.

3. Have them face a wall and stand on their hands as they bring their feet to the wall to help maintain balance.

All books presenting comprehensive activities for an elementary school physical education program describe many stunts; frequently they illustrate them. Children learn stunts easily by watching others do them or by viewing a picture or an illustration. Both ease of learning stunts by viewing pictures and good teaching procedure are shown by the following example.

The writer recently observed stunts being taught at one school during two consecutive years. During the first year the children seemed to have only nominal interest, teachers were heard to say things such as "Come on Mary, practice one of the stunts." During the second year teachers had a different kind of problem—that of "fighting off" children who were enthusiastically and excitedly saying things such as "Watch me, I can do this." Cause for the difference? During the first year, teachers had described—and in a few cases,

demonstrated) stunts and guided practice of them. During the second year cards describing and picturing stunts were placed on a bulletin board for all to see. Children ran to the bulletin board, looked, and read, sometimes talked with one another about how to do a stunt, sometimes asked a teacher for help. They then eagerly practiced the stunts until they could perform them successfully. (The cards describing and picturing the stunts were selected from Individual and Dual Stunts by Fischer and Shawbold. Further description of this will be found in the selected references.)

Teachers should inventory pupil resources when approaching the teaching of stunts (and all other activities). It is wise to ask questions such as "Can any of you do this?" "Who knows how?" or "Has anyone done this?" Such an inventory develops pupil resources and encourages the children to learn from one another.

Lead-up Games

Many group games used in the primary and intermediate grades include skills identical with or similar to skills required to play highly organized games such as softball, soccer, basketball, volleyball, and tennis. Learning skills while playing lead-up games prepares the pupil to play more complicated games later.

Lead up games also are group games. They are taught as group games, hence the reader may refer to the section on group games for teaching suggestions. However, in lead up games more attention should be paid to teaching such skills as how to catch, throw, bat, and kick a ball.

When there is little or no teaching of skills some pupils will learn quite satisfactory ways of performing them. But many will learn incorrect movements which will hamper instead of help. Practice—repetition—is necessary to learn physical skills. We often hear that "practice makes perfect." However, that is only a half truth: what is true is that "practice makes permanent." The youngster who repeats correct movements will learn them; one who repeats incorrect movements will learn them, thus "fixing" undesirable responses.

What skills do children need to be ready to play highly organ-

ized games? Smoothness of movement, balance, catching a ball, throwing, batting, kicking, starting, stopping, and moving sideways are all important. The fundamentals of each of these skills are described below. One who teaches his pupils these fundamentals may feel sure that they are well on the way to adequate athletic ability.

Smoothness of movement characterizes effective physical performance. It is developed by practice—repetition—of correct movements. Muscles work in antagonistic pairs: one group flexes a joint and the antagonistic group extends the joint. Let us bend our right arms forcefully in the manner described as “flexing one’s muscles.” The muscles at the front of the arm, the flexors, contract and the muscles at the back of the arm extend.

Our movement is efficient if these antagonistic groups of muscles work in harmony. To work in harmony one group must contract *and* the antagonistic group must relax. The degree of relaxation should correspond to the degree of contraction in the antagonistic group. When it fails to do so a jerky movement will occur. To teach smooth movement one must therefore help the pupil to relax the right muscles at the right time. This is why athletic coaches frequently say “relax” and “easy does it.”

Balance is essential to effective movement. To help pupils develop good balance in most sports they should be taught to: (1) keep their feet apart, (2) bend the knees a little, (3) lower the hips (this really is another way of saying “bend the knees”), and (4) lean slightly forward from the hips. Furthermore, some children need to be taught to use their arms to help balance their bodies, although most seem to do this naturally.

Catching a ball efficiently requires correct placement of the hands. They should be away from the trunk with their heels close to each other and the fingers extended so that the hands make a cuplike shape. The hands should “give” with the catch, i.e., move in the direction the ball is moving, to absorb the force. Without a “giving” movement the ball is likely to bounce away. In catching a ball it is important to watch it, to “keep your eyes on the ball.” A frequent cause of missed catches is taking the eyes off the ball

just before it is caught; players let their minds and eyes attend to the next movement, such as looking for a teammate to throw to, and find that they cannot throw the ball because they do not have it. Good advice for a teacher to give is "take one good look at the ball after you have caught it."

Throwing a ball well and forcefully requires a movement of the whole body. The throwing hand and arm is drawn back and the opposite foot is placed forward with most of the weight on the back foot. As the throwing arm comes forward the weight is transferred to the opposite or front foot (left foot if the right arm is the throwing arm). At the moment the throwing arm approaches the point at which the ball will be released the back foot leaves the floor to maintain balance and permit follow-through. The hand, arm, and body should follow-through until the hand is a little beyond the point at which the ball was released.

Batting well requires that the swing be timed so that the bat meets the ball at the instant of greatest momentum. The bat should be gripped loosely until just before it meets the ball; children tend to squeeze the bat tightly, which causes muscles to contract when they should relax. It should be held above the shoulder with the hands not resting on the shoulder, until the swing is started. The feet should be comfortably apart. The front foot steps forward as the swing starts. As the swing is being completed, the body turns in a follow-through motion, most of the weight is transferred to the front foot, and the back foot raises on its toes. In batting, as in catching a ball, it is highly important to watch the ball as long as possible. Follow-through is essential. A good teaching point is to advise the pupils to "drive the bat through the ball."

Kicking, like throwing and batting, requires follow-through and watching the ball. When preparing to kick one should face the ball and carry the kicking leg backward with the knee bent. The leg is swung forward from the hip with the knee straightening as the foot contacts the ball. The leg should be carried forward and one should rise to the toes of the back foot as the arms are extended for balance. The point of contact with the ball will depend upon the height of kick desired. Kicking low on a round ball gets a high

kick. The part of the foot which contacts the ball depends upon the direction of kick desired; in most cases one should try to make contact with the instep.

Starting, as used here, means starting to run—the first few steps. One should start with a forceful push from the toes and lean the body forward (for a forward start) as he does so. The first few steps should be relatively short and the knees should be raised vigorously. Arms should be swung hard. One should land on the toes and push the running surface hard with the toes as the foot leaves the floor or ground.

Stopping quickly is a necessary part of many games. One can do so effectively by landing with the feet spread, placing both feet flat on the floor, and bending the knees both to absorb the shock and to maintain balance. The feet should be placed forward with the body leaning back as one prepares to stop. The arms provide balance if they are spread.

Moving sideways is frequently necessary in games. The starting movement is similar to that described above in the paragraph on “starting,” in that there should be forceful pushes with the feet and a leaning of the body as one starts to move sideways. A very frequent fault in making short moves to the side is to lean and reach (perhaps for a ball) but fail to step. Good advice is “step” or “move your feet.”

The following list of lead-up games will help the teacher to select games useful for developing readiness for highly organized games and sports. Games develop and change from time to time. Also, many excellent lead-up games are local in character, having been developed in one school or community without getting into the literature. The lead-up games that follow, and many others, are described in books listed among the selected references in this chapter.

Soccer and Speedball

Circle Kick Ball
Corner Kick Ball
Hit Pin Baseball
Kick Ball

Soccer End Ball
Soccer Keep Away
Two-man Soccer (Three-,
Four-)

Tennis and Badminton

Battledore and Shuttlecock	Paddle Tennis
Paddle Badminton	Table Tennis
Paddle Ball	

Volleyball

Net Ball	Modifications of Volley-
Newcomb	ball ⁵

Baseball and Softball

Bases on Balls	Long Ball
Bat Ball	One Old Cat
Fly Out	Two Old Cat
Hit Pin Baseball	Work-up

Basketball

Captain Ball	Keep away
End Ball	One-basket Basketball
Dodge Ball	Side-line Basketball
Freeze-out	Two-man Basketball
Horse	(or Three)

Relays

In addition to providing fun, cooperative and competitive situations, and physical development, relay races are excellent for developing skills. Dozens of them are described and classified according to grade level in books on elementary-school physical education. Teachers and children may devise others. Relays should develop strength and skills; their use for recreation or fun only should be limited.

Most game skills can be practiced in relay races. In addition to running relays one can have kicking, throwing, passing, dribbling, and shooting relays. For example, one can make a relay of the

⁵ See discussion of group games.

volleyball circle-formation passing practice that is recommended in the team-sport section below. Several circles with an equal number of pupils start passing at a given signal and continue until each pupil has had a turn in the center of the circle. With six in a circle each pupil then would make ten passes—one from the outside of the circle when each of five others is in the center and an additional five when he is in the center. The team completing the sequence first is the winner.

Relay races can be run in circular, shuttle, or line style. The circular (or oval) style lends itself well to running relays and to use of batons (sticks or mailing tubes will do). In shuttle-style races in which one member of a team runs "north" and a teammate runs "south," it is better to use the hand-touch than a baton. Line-style relays lend themselves well to running to a given point and back. They are also effective in "doubles" relays, such as the wheelbarrow, in which one pupil walks on his hands while another holds his legs.

During relays used for the purpose of developing skills, teachers should give pointers for improved performances. Good teaching methods ensure activity for all. Instead of having two teams of twelve to fifteen members each one should organize more teams with fewer members of each. In most relay races six teams can run at once as easily as two. Teams should be arranged so that all are reasonably equal in ability.

Team Sports

Team games appropriate for elementary or junior-high grades include softball, soccer, touch-football, speedball, basketball, and volleyball. All of them are excellent games for seventh- and eighth-grade pupils. They may be included in the program for upper intermediate grades when pupils have had experiences with lead-up games and have developed skills sufficient to play these highly organized games. Frequently, however, it is wise to start team sports with all the official rules at the seventh grade. This is especially true



Even young children can learn some of the basic requirements of the scientific method. They may not understand the vocabulary of meteorology, but they are learning to observe the weather and describe it in symbols. Some usually ask questions about astronomy and geology while they work with this weather bulletin board. These experiences also encourage children to develop new reading interests. Besides these abstract and symbolic methods, what more tactile and concrete activities can be provided to encourage awareness of environment? (Photo: Henry Holt and Company; Blough and Huggett, *Elementary School Science and How to Teach It.*)



Visiting nurses, dentists, and doctors can stimulate interest in health and answer questions on useful health practices, but the classroom teacher is important, too. The teacher must supervise the children's daily health habits. This class is learning about growth and development and the importance of good nutrition by making life-size portraits of themselves—an imaginative way of integrating art and health education. (Photo: Oak Park, Illinois, Elementary Schools.)

in volleyball because children usually do not develop sufficient skill to handle a ball well with their finger tips until about that time.

The question of whether or not to include baseball in an elementary-school program presents special problems. It is likely to be popular among boys, many of whom play the game in "Little League" competition or in other situations outside school. However, considerable equipment, large areas, and rather long periods of time are necessary for satisfactory play. If these are available, baseball for boys will make significant contributions to the physical education of the pupils; if not, it is desirable to depend upon softball and baseball lead-up games for this type of experience.

Because most team games call for vigorous physical exertion they stimulate body processes and develop strength and endurance. They also provide a laboratory for group living with many opportunities for learning how to cooperate and how to compete. As they cooperate with teammates pupils learn that cooperative effort is necessary and that each player has contributions to make. As they compete against an opposing team they can learn to win gracefully and lose without rancor.

Should boys and girls play team sports together or should they be grouped by sex? Separating them at about the age of ten permits greater pursuit of interests and satisfaction of urges prevalent at that time. Boys need more vigorous and "rougher" activity than do girls, whether the activity is in team games or elsewhere. But boys and girls also need to play together for development of social competence. An "either or" answer to the question is not satisfactory; both playing separately and playing together are desirable and should be arranged.

Boys should play with boys, girls with girls, in soccer, speedball, and basketball. Games in which body contact is common should not be used in mixed groups. Touch-football and baseball are recommended for boys only. Softball and volleyball are appropriate for coeducational groups. Boys' teams should not compete with girls' teams; competition should instead be between mixed teams.

In elementary schools volleyball will usually be played under modified rules. Modified rules which tend to emphasize the skills are desirable for beginners because they will achieve more success

and develop skills more rapidly. Among desirable modifications are: (1) permitting individual players to play the ball several times in succession, (2) permitting a team an unlimited number of plays, rather than the regulation three, before returning the ball across the net, (3) requiring a team to play the ball three times, (4) decreasing the playing space, (5) permitting serving from closer to the net than behind the end line, (6) permitting assists on the serve, and (7) permitting play after a ball has bounced.

The classroom teacher, who cannot be expected to know these games very extensively, will find that 16-mm. films and slidefilms are very useful; some for each sport discussed will be found among the selected references in this chapter. Pupils can help; usually a teacher will find pupils who have learned and played. They can teach others and should be permitted and encouraged to do so. Many of the essential skills will have been developed before team games as such are introduced. Additional suggestions for teaching each of the games follow. Rules are not given here because space does not permit in a single chapter. Teachers should refer to the official guides of the various games or to books which give summaries of rules.

Softball and baseball are taught similarly and the rules are much alike. Although suggestions here pertain specifically to softball, because classroom teachers are not likely to teach baseball, they are appropriate for both games.

It is recommended that infielders practice fielding ground balls and outfielders practice catching fly balls frequently and repeatedly (young players should try out several positions). An excellent procedure for providing this practice is to "hit the infield" and "hit the outfield" until all players have had several chances to field before each game is started.

"Hit the infield" means that infielders take their positions and someone bats ground balls to each infielder in turn. No pitcher is used, the batter tosses the ball in the air and hits it. After the fielder fields the ball he throws it to first base. The first baseman throws it to another infielder who in turn throws it to another until all infielders have caught and thrown the ball. Then the ball is batted to the next infielder, the throwing is repeated, the ball is batted to the next infielder, etc.

"Hit the outfield" means batting fly balls to each outfielder in turn. Because it is not easy to bat fly balls to outfielders it is better to substitute throwing fly balls to them to save time unless someone who can hit fly balls accurately is available.

Players also should practice batting. One player pitches and one bats. The batter should hit a predetermined number of balls (two to five) during his turn to practice batting. Other players take positions in the infield and outfield to field the balls and return them to the pitcher. After a batter has had his practice he goes to the field and another gets his turn to bat until all have had a turn at batting practice. Since this takes considerable time it is suggested that a few rather than all players practice batting during one class period. Players should be encouraged to practice batting at other times if they have opportunity. In addition, swinging bats without hitting a ball is worthwhile practice and takes much less time. The only limit to the number of pupils who can do this at one time is the number of bats available.

Soccer and speedball call for kicking the ball. Although the games call for other skills, kicking is the skill most in need of development. Hence teaching suggestions in this brief presentation are limited to that skill.

Players should learn to kick the ball forward and to each side by kicking with the front and with each side of the foot. Accuracy rather than distance should be emphasized. An excellent procedure for teaching is to arrange six pupils in a circle and have one kick to another, who in turn kicks to another, etc. More than six practicing with one ball is somewhat like several pupils sharing one textbook, resulting in some having to await their turn to use the book.

Two man or three man soccer—having two or three players try to kick the ball past two or three defenders—provides effective kicking practice. It has the advantage of a competitive situation which is attractive to children. It provides much more practice than occurs in a regular game because each player has an opportunity to kick the ball frequently.

To play *touch football* well players must be able to throw, catch, and kick a football, and to block (screen) an opponent. Arranging

pupils in circle formation, as recommended above for soccer and speedball kicking practice, provides effective practice for passing (throwing) and catching as well as for kicking and catching. The size of the circle depends upon the ability of the pupils. Accuracy rather than distance should be stressed and the circle should be small enough for passes and kicks to be accurate.

"Blocking" in touch-football is more accurately described as screening, because aggressive blocks are not allowed. The blocker impedes the progress of an opponent by placing himself between the opponent and the ball carrier; he is not permitted to drive his shoulder or body into an opponent with a forward motion as in football. An effective procedure for teaching blocking is to arrange players in groups of three. One player is a defensive man, one is a blocker, and the third is a "ball carrier." The blocker tells the "ball carrier" whether he should run to the right or to the left. Then at a signal for action to start the "ball carrier" runs, the defensive player tries to touch him, and the blocker places himself between the defensive man and the "ball carrier" for the purpose of preventing the defensive man from touching the ball carrier. After several turns players exchange positions so that all have practice in blocking.

Basketball requires many skills—passing, catching, shooting, rebounding, defending, faking, and pivoting. Two types of practice are recommended. One is commonly called "shooting drill." It really includes practice in passing, catching, and rebounding as well as in shooting. Two lines of players, one on each side of a basket, start by having the player with the ball shoot. The front player in the line on the opposite side gets the ball and rebounds. He then passes to the next player in the line on the other side of the basket, who shoots. After a player shoots he goes to the end of the rebounding line, and after a player rebounds he goes to the end of the shooting line. Various kinds of shots—lay-up, set, and jump—may be practiced with this style of "shooting drill."

The other type of practice recommended is commonly called "one vs. one," "two vs. two" or "three vs. two." In "one vs. one" one player tries to score a basket while his opponent tries to prevent

him from doing so. The offensive player may shoot a long shot and try for the rebound or he may fake a long shot and try to dribble in for a short shot. In "two vs. two" or "three vs. two" the offensive players may pass to one another as well as shoot, fake, and dribble in their attempt to score. With all three of these arrangements there is, of course, rotation of positions so that all get practice on offense and defense.

Recommended *volleyball* practice starts from a circle formation and from a miniature game formation. Arrangement of the circle formation is similar to that recommended for soccer, speedball, and touch football. There is one difference, however: for volleyball there should be one pupil in the center of the circle, because it is more difficult to guide a volleyball since it must be tapped with the finger tips—catching it, of course, is not allowed. Passing (tapping) the ball from the circle to a person in the middle of it is easier than passing from one person in the circle to another. Practice proceeds with one player in the circle passing the ball to the player in the center, who passes it to the next player in the circle, who passes it to the player in the center, etc. Pupils in the circle change places with the person in the center until each has had a turn in the center of the circle.

The "miniature game formation" is approached by having three players in a triangle on one side of the net matched by three on the other side of the net. Two of the players in each triangle are near the net about six feet from each other (three groups of six each, or eighteen players, can be accommodated on one court) and the third is about twenty feet from the net. The player farthest from the net passes the ball to a teammate, who in turn "sets it up" (passes it high) for the third teammate who "spikes" (drives the ball across the net). Players on the opposite side of the net then do the same. Players exchange positions so that everyone gets a turn in each position. Rather than exchange positions after each play it is well to exchange after about three plays of the ball. This permits the player to become somewhat accustomed to performing one act and permits repetition of a specific act at an appropriate time.

Individual and Dual Sports

Individual and dual games or sports (with from one to four persons participating) for elementary-school pupils include hopscotch, shuffleboard, tether ball, croquet, pateca, rope jumping, playing with hoops, hand tennis, sidewalk tennis, aerial tennis, paddle tennis, paddle badminton, tennis, handball, and badminton. Swimming and diving, skating, combative contests, and wrestling also are included, although books on elementary-school physical education sometimes classify these activities differently. Each of the general books on physical education listed among the selected references treats all or most of these sports; consulting an index will locate information quickly.

Each pupil should learn several individual or dual activities. They provide satisfaction and self-expression and youngsters are likely to use them at home and on playgrounds if they learn them at school. Since sports learned in childhood tend to be the ones we engage in as adults, learning individual and dual activities in school may lay a foundation for healthful recreation in later years.

It is especially important for children to learn *swimming*. Youngsters learn to swim more readily than do older persons. Very probably the best time to learn swimming is before eight years of age. Since, unfortunately, only a small percentage of elementary schools provide for swimming instruction we must depend largely upon the home and various community resources. Teachers help by showing interest. Especially in the early grades it is advisable to mention swimming in the spring and fall. Asking how many pupils can swim helps to develop interest; those who cannot may be moved to try as they note that some of their peers can swim and as they hear their friends talk about it. Water safety projects have been successful and useful.

Most individual and dual sports are quite easy to teach up to a point where children enjoy participating. Pupils can start playing almost immediately; only a very brief explanation or, better, a brief period of watching someone else play is needed. Children learn as they play and as teachers and pupils make suggestions for improvement of skills.

The most important part of teaching these activities is the provision of opportunities. Facilities are important and to a large extent are administrative rather than teacher responsibilities. However, teachers can increase the opportunities.

Sidewalk tennis areas are easily located. This interesting game can be played on almost any sidewalk; not even marking is necessary because cracks form satisfactory boundaries. A little instruction and a ball, which players strike with a hand, gets play started. A rubber ball somewhat smaller than a volleyball is advisable for beginners; advanced players use a tennis ball but beginners are not able to control a ball so small and fast-moving.

Places can almost always be found and marked for *hopscotch*. The splendid activity of *rope-jumping* requires only ropes, space, and teacher encouragement. *Hoops* may be jumped, spun, twirled, and balanced wherever space permits. Frequently a part of a wall of the school building can be used for *handball*. Marking play areas can be a good project for pupil councils or clubs.

Teachers can increase the usefulness of existing facilities by having several groups within a class engage in different activities. Thus, for instance, hopscotch areas, sidewalk tennis courts, and jumping ropes all can be in use at the same time.

Partner contests permit a pupil to match strength and skill directly with one other person. Five partner contests which can be taught easily include:

1. HAND WRESTLE

Two pupils grasp hands in handshake fashion with feet wide apart and the front foot of each contestant touching the front foot of the other. At signal to start each contestant tries, by pushing, pulling, or jerking in any direction, to make his opponent move a foot. A contestant who moves a foot or touches the floor with any part of his body other than his feet loses the match.

2. ROOSTER FIGHT

Each contestant grasps his right ankle (it may be either ankle, right is used here to facilitate description only) with his right hand,

passes his left hand behind his back, and grasps his right elbow with his left hand. Contestants then will be standing on one foot facing each other. They try to knock each other off balance. A contestant who touches the floor with any part of his body other than the foot he is hopping on or who releases his left hand from his right elbow loses the match.

3. HAND PULL

Contestants grasp both wrists of each other across a line. At the signal to start each attempts to pull his opponent across the line. This may be varied by using one hand instead of two.

4. SHOULDER PUSH

With a line between them, each contestant places his hands on the front of his opponent's shoulders. At signal to start each tries to push the other until the feet of the winning contestant cross the line.

5. BACK-TO-BACK LIFT

Each contestant places his back against the back of his opponent and links elbows with him. At the signal to start each tries to lift his opponent by bending forward. A contestant whose feet leave the floor loses the match.

When teaching partner contests, a teacher may arrange all pupils by pairs and have all matches start at the same time. Saying "ready" to tell contestants to take the starting position and blowing a whistle as a signal to start the match works well, so does a "slow whistle" for ready and a "sharp whistle" for start. Another good teaching procedure is to arrange pupils in groups of three with one serving as signal giver and judge while the other two compete. Contestants change positions so that all compete and all give the starting signal and judge. The latter method leaves the teacher free to help pupils who need it. With either method those who compete against each other should be reasonably equal in strength.

Wrestling is an excellent sport for intermediate and upper grade

boys. However, it is not likely that many classroom teachers will attempt to teach it. Those who wish to do so should consult a book on wrestling.

Track and Field Sports

Broad jumping (both standing and running), high jumping (both standing and running), runs of various length (short runs—25 to 50 yards—for younger children), relays, and shot-putting (for upper grade boys) are excellent activities.

Squad organization is highly recommended for these activities. In addition to providing for maximum activity, squads give youngsters practice in managing themselves. During one-third of the class period one squad may practice broad jumping, another high jumping, another sprinting. Then squads can change activities and practice another event for one-third of the period, after which they change again. This makes for high activity by reducing waiting for turns. It also provides variety of activity which prevents undue fatigue and tends to keep interest high.

Teachers help and advise as needed. In the standing jumps pupils should be taught to get their muscular action timed so that maximum force is exerted at the right time. To get ready, the jumper bends his knees, lowers his trunk, and raises his arms backward. To jump he straightens his knees, raises his trunk, swings his arms forward and upward hard, and pushes hard with his feet and toes. In a properly timed jump all of these actions will come to a climax at the same time. The jumper should “explode” as he takes off.

In the running jumps, in addition to teaching timing and explosive action, teachers should help youngsters “measure” their steps so that they take off at the right place. Placing a marker six steps from the spot of the take off helps. As a pupil practices “hitting the mark” and then taking six steps he learns whether the mark is in the right place for him. If it is not he changes his marker and tries again. In the running broad jump pupils should emphasize jumping

high to jump far, and in the running high jump they should be taught to clear the bar at their greatest height.

In the sprints, starting should be practiced frequently. The technique of starting was discussed in the section on lead-up games. In shot-putting the shot should be held near the neck above the shoulder, with the weight of the shot on the fingers rather than on the palms of the hands. The performer hops forward on his back foot, lowers his shoulder by bending at the hips and knees, and then straightens his arm, middle part of the body, and knee simultaneously in an "explosive" action as he pushes hard with his foot and lets the shot go, while turning his body toward the direction of the throw. He may continue his body-turn in circular fashion (called a "reverse") to maintain his balance.

Nine Teaching-Learning Essentials

There are diverse effective styles of teaching physical activities. Certain things, however, must be accomplished for any style to be effective, for learning to be achieved efficiently. Though these duplicate in part what has been said in Chapter 1, they are included here because of their special significance for teaching physical education.

Direct teacher acts, such as explanation, gesture, and "showing how," affect the extent to which each of the nine are accomplished; so does the atmosphere which the teacher creates or helps to create. So, indeed, do pupils as they play their important role in teaching, as the children learn from one another. A classroom teacher may feel sure that his teaching of physical education is effective if there has been provision for the following nine essentials:

1. THE PUPIL MUST UNDERSTAND WHAT HE IS DOING

To help pupils develop a concept teachers explain, gesture, discuss, answer questions, demonstrate, and use audio-visual aids.

It is difficult for pupils to grasp a concept, to "get a picture" of complicated body movements that are new to them, by listening to a description. But it is easy for them to grasp the idea after watch-

ing someone else do it or seeing a picture. Although physical education specialists may be expected to be able to demonstrate a wide variety of complicated motor skills, no one expects this on the part of elementary-school teachers who are responsible for the total educational program in the self-contained classroom.

However, most basic motor skills, unlike complicated coordinations and refinements, are usually grasped without much difficulty. This is true because the ability to perform almost all the specific movements required for a sport skill are learned early. A child can walk, run, throw, grasp, and hang before attending kindergarten. New movements are made up by combining and refining movements the child can already make. Hence there almost always is a point of reference such as "you throw the ball like you throw a bean-bag, except . . ."

Helping children form a proper concept of a game new to them can be simplified by pointing out similarities to and differences from known games. Watching other children play produces good concepts, good visualization of how to play; this is really the way most games are learned. Teachers increase learning rate by having their pupils watch a higher grade play games as a first step.

Pictures and diagrams are most helpful. Some books on elementary school physical education have very helpful illustrations, others are published on cards which can be posted on a bulletin board. Although these books are written for teachers it is wise to let pupils see appropriate pictures or diagrams, and to read when there is interest. Clippings from magazines and newspapers have proven helpful to many teachers.

2. THE PUPIL MUST BE ALLOWED TO HAVE TRIALS

The discussion above could lead readers to believe that exactness and completeness of concept are needed before the pupil performs a motor skill. This is not so. Although these teaching essentials are separated for discussion purposes they are interrelated. The pupils' building of concept continues and is progressively refined throughout all of the nine essentials of teaching physical education.

Pupils should try, perform, as soon as they have the general idea. A frequent teaching mistake is to take too long to describe and

explain a game or physical movement and therefore to delay pupil trials. After the "big ideas," the main points, have been portrayed, pupils should "try it out." During their trials or preliminary play their concept is expanded by questions and practice.

3. THERE MUST BE ANALYSIS, DIAGNOSIS, OF PUPIL PERFORMANCE

As pupils engage in early trials, both teacher and pupils form opinions concerning how pupils are doing and how they might improve. Pupils are observed by one another as well as by the teacher to help determine what suggestions for improvement and what practice procedures are needed.

4. AFTER TRIALS AND DIAGNOSIS THERE SHOULD BE FURTHER TEACHING

In physical activities, as in all other school areas, there will be differences among individuals. Although the teacher may believe that all members of the class need certain instruction and practice he will find that variation of learning experience is indicated for some.

In physical education, diagnostic teaching will at times lead to regrouping of a class for play or some other activity. Some activities, however, make considerable allowances for individual differences. Many simple games proceed well, with all participants able to learn, even though the range of player ability may be great. Similarly, taking turns on a horizontal ladder or on rings has a built in ability to care for individual differences. Both the girl who can go clear across the ladder and the boy who can make only two rungs will receive developmental exercise, and both can receive satisfaction in their own performance if teacher-pupil and pupil-pupil relationships are such that each pupil feels that he has accomplished something.

5. THERE MUST BE PUPIL ACTIVITY AND REPETITION OF PERFORMANCE

For exercise and for development of skills there must be continued and repeated activity. Motor learning seldom takes place by pure insight, the first trial seldom produces a good performance. Practice is needed, repetition is necessary to fix learning of movement patterns as well as to develop strength.

Teachers should see that pupils have ample opportunity for trials and turns. When pupils are to throw or catch a ball, for example, there should be enough balls for each child to have frequent turns at throwing and catching. This may be accomplished either by having and using enough equipment of one kind or by dividing a class into groups working on different activities.

6. INDIVIDUALIZATION OF TEACHING MUST BE ACCOMPLISHED

Each pupil must be motivated, each should express himself through physical activity, and each should experience satisfactions. There should be challenge for the superior performer as well as success for the poor one. The superior pupil can and should help others; he also should continue to learn, to improve. The pupil with little ability should be helped to find success.

Teachers have a great responsibility to the pupil whose physical abilities are poor. To a considerable extent—too great an extent, no doubt—physical ability affects group acceptance. The poor performer may fail to become a part of a play group to which he aspires. The teacher's responsibility is dual. On the one hand he should help the youngster develop physical skills; on the other he should work toward pupil-pupil relationships which recognize worth in all individuals.

A pupil who refuses to participate is a problem faced by all, or at least almost all, elementary-school teachers. In these cases, as, of course, in all such problems, the first thing for the teacher to do is appraise the reasons for the refusal. Fear always should be suspected; feelings of insecurity short of real fear may be the reason.

The pupil who refuses to participate is in need of help. Criticism or an atmosphere of disapproval may force one cautious youngster to take the necessary first step but a more likely result is an increase in fear or feelings of insecurity. Inner feelings of success are needed. The teacher who assures a reluctant child that he can do some things well enough and that he can learn others usually succeeds in securing participation.

The need for success for all necessitates selection of subject matter or activities which are well within the range of the individuals

involved. Refusal to participate may be indicative of need for simpler and easier activities.

Teachers should realize, too, that in some cases the pupil who refuses merely needs time. He may not be ready. Hurrying him may only increase the difficulty. Sometimes just letting the child sit out for a while takes care of the problem. However, while he is sitting out there should be a program for development of readiness. Watching others play helps to develop readiness, and learning by observing increases as cues are given by the teacher and by other pupils.

7. EVALUATION OF PUPIL PROGRESS IS NECESSARY

Both teachers and pupils evaluate while they are taking part in the teaching-learning relationship. Both form opinions—or at least impressions—of how well the pupil is doing. Teachers express their evaluations to pupils continuously throughout day-to-day teaching. Their comments—and more important, their gestures and facial expressions—convey evaluative ideas to pupils. Because evaluation affects motivation teachers should see that their expressions leave room for success for all.

8. PUPILS MUST LEARN FROM ONE ANOTHER

Because physical performance can be seen, pupils learn much from each other during physical education. As one pupil performs he provides a demonstration for those who watch him. To a considerable extent pupils know who performs well and take good performances as models.

Several teacher approaches to enhancing the quantity and quality of what pupils learn from one another are as follows:

- a. Encouraging pupils to seek assistance from classmates, and to give assistance to classmates.
- b. Encouraging "emerging leadership": when a pupil learns more rapidly than others or demonstrates superior ability, encourage him to help others.
- c. Seeking pupil assistance in planning and managing.
- d. Organizing group leader or teacher-helper plans; assigning leadership and other teacher-helper responsibilities to elected or selected pupils.

- c. Permitting and encouraging pupils to plan for and manage their own activities, while the teacher serves as a consultant or guide.

9. MOTIVATION MUST BE SUPPLIED

Praise or criticism of a certain achievement may spur one pupil but deter another. Knowledge of a pupil's feelings is the best guide for selecting ways to provide motivation.

Factors and procedures which can be used for motivation include (1) pupil understanding and acceptance of goals, (2) pupil participation in planning and managing their own affairs, (3) knowledge of progress, (4) success, (5) teacher-pupil rapport, (6) warm pupil-pupil relationships, (7) teacher willingness to help at all times, (8) teaching by starting with present pupil interests, (9) testing and examining at appropriate times to evaluate growth, (10) surrounding desired conditions with status-giving accouterments, and (11) understanding each pupil and making the children the real center of teaching.

DISCUSSION QUESTIONS

1. Is development of physical strength important for children? Why, or why not?
2. Can physical education increase over-all effectiveness of learning?
3. How can a classroom teacher help pupils to improve their postures?
4. How may a classroom teacher develop pupil interest in conditioning activities?
5. Is it possible for one who cannot perform a stunt to teach it effectively?
6. How important is accompaniment in the learning of rhythmical activities?
7. How does one determine what group games are appropriate for a given group of children?
8. What basic skills do children need to be ready to play highly organized games?
9. In selecting physical education activities how does one decide whether to choose what the children know and like or to teach something new?
10. What purposes may be served by having a county elementary-school track and field meet?

SUGGESTED READINGS

BOOKS AND PAMPHLETS

- Amateur Softball Association, *Official Softball Guide*. Newark, N. J.: The Association (11 Hill Street). Periodically published guide present rules and information about the game. (Guides for girls' softball, and various other sports, are published periodically by the Division for Girls and Women's Sports of the American Association for Health, Physical Education, and Recreation.)
- American Association for Health, Physical Education, and Recreation, *Children in Focus, Their Health and Activity*. Washington, D. C.: The Association (1201 Sixteenth Street, N. W.), 1954. This 1954 yearbook deals with health, physical education, and recreation in the elementary school. Different authors write about their fields of specialization. Emphasis is upon the nature and needs of children, and contributions the schools may make through health and physical activity.
- Bucher, Charles A., and Evelyn M. Reade, *Physical Education in the Modern Elementary School*. New York, N. Y.: The Macmillan Co., 1958. Material concerning the nature of play, of children, and of physical-education program is presented. Activities are suggested and described. Many topics, including tournaments, principles, evaluation, camping and outdoor education, and legal liability, are discussed.
- Evans, Ruth, Thelma I. Bacon, Mary E. Bacon, and Joie L. Stapleton, *Physical Education for Elementary Schools*. New York, N. Y.: McGraw-Hill Book Co., 1958. Program activities are described for ages five and six, seven and eight, nine and ten, and eleven and twelve. Activities for noon-hour, rainy days, and special events included. An appendix presents music for rhythms and dances.
- Fisher, Hugo, and Dean R. Shawbold, *Individual and Dual Stunts*. Minneapolis, Minn.: Burgess Publishing Co., 1950. Some 200 stunts are pictured and briefly described on 160 separate cards convenient for carrying and for posting on bulletin boards. The pictorial presentation makes for ease of understanding. Most of the stunts may be performed in limited areas and require no equipment. Differing levels of difficulty facilitate fitting instruction to individual differences; superior performances find challenge, and all can find success in some of the stunts.
- Gerl, Frank H., *Illustrated Games and Rhythms for Children*. Englewood Cliffs, N. J.: Prentice Hall, Inc., 1955. The many games and rhythmic activities presented in this book have been selected from among

those found useful and successful in schools. Illustrations make for ease of understanding.

- Halsey, Elizabeth, and Lorena Porter, *Physical Education for Children*. New York, N. Y.: Henry Holt and Company, 1958. The elementary-school program described is geared to the child's growth and development. Activities are classified as games, movement exploration, dance, and self-testing. The "movement exploration" activities represent material seldom found in United States literature; they draw upon English and European physical education.
- Larson, Leonard A., and Lucille F. Hill, *Physical Education in the Elementary School*. New York, N. Y.: Henry Holt and Company, 1957. Foundations, program, standards, and evaluation are discussed. Activities for each of the grades through six are presented.
- Latchaw, Marjorie, *A Pocket Guide of Games and Rhythms for the Elementary School*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1956. This spiral-bound book presents games under classifications of running-tagging, throwing-catching, kicking, striking, and classroom. It has diagrams, and music for rhythms. For each game there is a brief evaluative check-list and space for teacher notes.
- LaSalle, Dorothy, *Rhythms and Dances for Elementary Schools*. New York, N. Y.: A. S. Barnes and Co., 1951. This book presents dances and singing games arranged in approximate order of difficulty. There are chapters on movement fundamentals, characterizations, singing, games, and simple, intermediate and advanced folk dances. Music is included.
- McNecley, Simon A., and Elsa Schneider, *Physical Education in the School Child's Day*. Washington, D. C.: U. S. Office of Education, Federal Security Agency, 1950. This book of less than 100 pages presents information about children of various ages, tells about physical education and its value, and deals with organization of the school day to provide physical education experiences. It describes the kinds of things one might expect children to do in a school physical education program.
- Miller, Arthur G., and Virginia Whitcomb, *Physical Education in the Elementary School Curriculum*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957. Three parts of this volume deal with organization and administration, activities for physical education, and integration. The same 60 pages concerning integration will prove helpful to the teacher who wants ideas about correlating physical education with social studies, language arts, arithmetic, and special days.
- Murray, Ruth I., *Dance in Elementary Education*. New York, N. Y.: Harper & Brothers, 1953. This book describes many dances, gives help in the teaching of them, and presents a rationale concerning the place and value of dance in education. Although some of the

activities are appropriate only for younger children, much of the material will be found useful and enjoyable regardless of age.

National Collegiate Athletic Bureau, *Official Soccer Guide*. New York, N. Y.: The Bureau, (Box 757, Grand Central Station). Periodic publication of rules, information about the game, and teaching suggestions. Appropriate for teachers who wish to develop high-level soccer play; others may find sufficient information about soccer in any of the books in this list whose titles indicate coverage of an elementary-school physical-education program.

National Conference on Elementary School Children, *Physical Education for Children of Elementary School Age*. Chicago, Ill.: The Athletic Institute, (209 South State Street), 1951. This 47-page pamphlet presents recommendations of the conference concerning physical education for the elementary school. Conferees and writers included specialists in child growth and development, classroom teaching, physical education, recreation, and administration.

O'Keefe, Pattie Ruth, and Anita Aldrich, *Education Through Physical Activities; Physical Education and Recreation, Elementary Grades*. St. Louis, Mo.: C. V. Mosby Co., 1955. This book presents curricular materials, suggests teaching procedures, and discusses evaluation. Part 1 deals with procedures underlying physical education in our elementary schools; parts 2 and 3 present activities for the first three grades and for the fourth through eighth; part 4 is devoted to special events such as playdays and programs.

Richardson, Hazel A., *Games for the Elementary School Grades*. Minneapolis, Minn.: Burgess Publishing Co., 1951. On separate cards convenient for carrying to the play area, 137 games are described. They are classified according to appropriate grade level. Location needed for play—playground, gymnasium, classroom—is indicated for each game to facilitate teacher selection of various kinds of games. Attention is given to describing games, formations needed, and rules in terms easily understandable to persons not experienced in teaching games.

Stuart, Frances R., *Classroom Activities*. Washington, D. C.: American Association for Health, Physical Education, and Recreation, 1956. This pamphlet suggests physical education activities that may be taught and enjoyed in the classroom. It describes activities under the classifications of story plays, quiet games, active games, body mechanics, and stunts and tumbling.

Stuart, Frances R., and John S. Ludlam, *Rhythmic Activities*. Series I and II. Minneapolis, Minn.: Burgess Publishing Co., 1955. Series I and Series II, each a book in the form of a packet of cards, are available separately. Series I presents 50 singing games and folk dances intended for use in the primary grades. Series II presents 50 folk dances from twenty countries designed for intermediate grade

children. Each activity is described on a separate card for ease of use outdoors, and in playrooms or gymnasiums where the use of bound books is clumsy. Similarly, the music for each activity is on a separate card for convenience.

United States Volleyball Association, *Official Volleyball Guide*. Berne, Ind.: U. S. Volleyball Printer. Published periodically, usually annually, this reference guide presents progress of the game and suggestions for teaching as well as the official rules.

Van Hagen, Winifred, Genevieve Dexter, and Jesse F. Williams, *Physical Education in the Elementary School*. Sacramento, Calif.: California State Department of Education, 1951. This book of about 1000 pages has been prepared mainly as a guide to physical education for California teachers but has found nation-wide use. It is an expansion and refinement of previous California manuals. Part 1 deals with characteristics of an adequate program and includes chapters on physical education in the school, the child, teaching motor skills, program planning, facilities and supplies, postures, play and games, rhythms, and evaluation. Part 2 presents activities for each of the several grades.

FILMS, FILMSTRIPS, AND SLIDES

Basketball is Fun (Bailey Films, Inc.). Designed to introduce basketball to beginners. Using a playing situation, the elements of the game are presented in nontechnical language. Suitable for intermediate and upper grades. 15 minutes.

Beginning Tumbling (Coronet). Various elementary stunts including rolls, stands, and flips are demonstrated singly and in combinations. Considerable emphasis is placed on safety. 11 minutes.

Educated Feet (Bailey Films, Inc.). Shows proper habits of sitting, standing, walking, and playing. Designed to improve posture of elementary school children and to stimulate interest of teachers and parents in a well-balanced school physical-education program. Suitable for all elementary grades as well as for adults. 15 minutes, silent.

Muscular System (United World). A human model demonstrates muscular action in maintaining posture in standing and moving positions. Suitable for intermediate and upper grades. 11 minutes.

Play Softball (Association Films). This filmstrip with 86 frames and script explains and illustrates basic skills as well as team play. Look magazine collaborated in the production.

Play Volleyball (Association Films, Inc.). Explains the game of volleyball. Various elements of play are clarified by slow motion and stop action. Suitable for upper grades. 11 minutes.

Posture Habits (Coronet). Makes the child posture-conscious, motivates good posture habits for the formative years. Deals with sitting, stand-

ing, and walking posture. Suitable for primary and intermediate grades. 11 minutes.

Posture and Exercise (Encyclopedia Britannica Films, Inc.). Describes muscle activity and physiology of exercise, deals with muscle tonus in relation to posture, also with relation of the nervous system to skeletal muscles, development of endurance and peripheral circulation. Suitable for upper grades, perhaps also for intermediate. 11 minutes.

Rope Skipping (Gordon Hathaway). Shows fundamental skills and advanced combinations used in rope jumping. 11 minutes.

Soccer—The Universal Game (Hollywood-Panamerican Films). Designed to introduce Americans of all ages to the world's most widely played team sport. Demonstrates fundamentals and techniques of the game, uses both action shots and animation sequences. Suitable for intermediate and upper grades. 10 minutes.

Softball for Boys (Coronet). Slow-motion photography is used to analyze individual player skills and principles of team play. Deals with some rather advanced skills including sliding, double-play techniques, and bunting. Suitable for intermediate and upper-grade pupils who already know something about softball. 10 minutes.

Softball for Girls (Coronet). Deals with skills of throwing, catching, batting, and fielding as they apply during a girls' intramural game. Designed to show pupils how the fun of softball is heightened by intelligent practice. Suitable for intermediate and upper grades. 11 minutes.

Swimming—Parts I, II, III (United World). Part I. "The Beginner": Shows how to breathe, kick, and float. 6 minutes.

Part II. "Getting Afloat": Shows how to swim using primary strokes. 5 minutes.

Part III. "Advanced Strokes": Deals with advanced strokes and kicks. 5 minutes.

All three parts are suitable for all grades.

Swimming for Beginners (Official Films, Inc.). Instructs a ten-year-old in fundamentals of swimming, from conquest of fear to breathing, strokes, and coordinated deep water swimming. Suitable for primary and elementary grades. 11 minutes.

Tennis for Beginners (Official Films, Inc.). Former tennis champion Bill Tilden narrates and appears in the film to teach a boy how to play tennis. Various steps of the game are shown, and the film ends with a beginner and the expert playing a game. Suitable for intermediate and upper grades. 11 minutes.

The Athletic Institute Slidefilm Series. Slidefilm teaching units for each of several sports—archery, badminton, softball, tennis, tumbling, and wrestling—may be purchased from The Athletic Institute, 209 Smith State Street, Chicago 4, Illinois. Quite appropriate for seventh and eighth graders. They can be helpful to younger children.

(Also available, at low cost, are small booklets whose content is the same as that in the corresponding slidefilm units.)

They Grow Up So Fast (American Association for Health, Physical Education, and Recreation). This film pictures activities which range from the first to the twelfth grade. The needs of children and ways in which physical education helps to meet them are emphasized. Helpful for interpreting the need for and value of physical education, this film is appropriate for children and especially useful for showing to adult groups. 27 minutes.

RHYTHM AND DANCE RECORDS

Basic Rhythms Program, RCA Victor, Camden, N. J. Volumes for primary grades include dwarfs, clowns, animals, skipping, marching, running, jumping, and games. Volumes for intermediate or upper grades include marches, games, and many dances. Available as a **basic rhythm series or in individual records.**

Bowmar Series, Produced by Bowmar Records (Distributed by Webster Publishing Company, 1808 Washington Avenue, St. Louis 3, Mo.). Albums of basic rhythms for kindergarten and primary grades include "Rhythm Time" and "Holiday Rhythms." "Rhythm Time" presents eighteen selections of piano music for running, walking, tiptoeing, and skipping. "Holiday Rhythms" is composed of thirteen selections of rhythm music for games (or instrument work) appropriate for Halloween, birthdays, Christmas, Easter, St. Valentine's Day, patriotic holidays, and maypole dances.

"Singing Games" (Album 1 for first grade, Album 2 for second) includes singing games and simple dances which emphasize walking, running, hopping, jumping, and sliding. "Singing Games and Dances" present music for singing games and folk dance albums designed for third grade, and for older children. Three folk dance albums for intermediate grades are: "Folk Dances, Album 4" with selections of dances from around the world, "American Folk Dances, Album 5," and "Latin-American Folk Dances, Album 6."

Ed Durlacher's *Honor Your Partner*, Square Dance Associates, 102 North Columbus Avenue, Freeport, N. J. Several square dance albums. Explanations for "walk-through" practice and calls are on the records. Also an album (No. 7) is designed to teach rhythms to primary-grade children. It includes walking, bird and flower interpretations, trotting, leaping, galloping, skipping, and hopping.

Music for Movement, Audio-visual Bureau, College of Education, Wayne University, Detroit, Michigan. Developed by Ruth Murray, this album includes fundamental movements such as walking, running, **skipping, hopping, and jumping.**

Ruth Evans Childhood Rhythm Records, Chartwell House, Inc., New

York, N. Y. Albums of rhythm records for elementary-school children. Series one, for primary grades, includes fundamental rhythms of walking, running, jumping, and galloping, animal and toy rhythms, and play and character rhythms. Series two, also for primary grades, includes rhythm combinations of up and down, round and round, fast and slow, walk and hop, run, hop and stop, walk and skip, music designed for rhythmic bouncing of balls and rope jumping, and interpretative and dance rhythms. Series three presents more advanced rhythms appropriate for intermediate grades. Series four applies rhythmic patterns to dance. Other series present music for play rhythms, singing of games, and stunts.

Square Dances for Children, Capitol Recording Company, Sunset and Vine, Hollywood, California. Appropriate for beginners, this record includes Choo-Choo, Indian War Dance, Merry-go-round, and Loopy-loop.

Woodhull's Old Tyme Masters, RCA Victor, Camden, New Jersey. These square dance record albums with calls are appropriate for beginners.

World of Fun Series, Methodist Publishing House, Nashville, Tenn. This folk dance album includes many dances, some of which are American, others of foreign origin.

Teaching Music

THROUGHOUT THE PRECEDING CHAPTERS the writers have stressed the necessity for placing the learner at the center of all teaching. In planning for significant musical experiences in the lives of children, we must again consider the child and his development as the focal point. We must understand what music can do for children. Mursell states that

Music is an art with endless ramifications, with endless psychological and cultural affiliations. . . .

When we learn music as we should, we also learn a great deal more. First, we gain a respect for the emotional and aesthetic aspects of life. We learn that man does not live by bread alone and that a narrow practicality does violence to human nature. Second, we gain a respect for creative activity, which is no mere spectator's respect, for it is gained by a participation, however humble, in such activity. Third, we gain a respect for, and an understanding of, fine workmanship, because we ourselves have learned how desirable and how difficult it is. Fourth, we learn to desire self-expression and to be willing to submit ourselves to the discipline necessary for the mastery of its means. Fifth, we are brought closely and vitally into contact with a wide range of culture, with art, and literature, with biography and science, with the characteristic products of exotic life.¹

¹ Jane T. Mursell *Human Values in Music Education*. Morristown, N. J.: Silver Burdett Company, c. 1934, pp. 351-352.

These benefits constitute ample reason for giving attention to music as a vital and contributing part of the curriculum. But we may very well ask what there is about music which makes possible the reaping of such benefits. The answer to this question may be found in the fact that music is an *expressive art*. Music has within it the power to evoke a pleasant response. Music may therefore serve each child as (1) a means of self-expression, (2) an avenue to self-application, and (3) a means toward clear and intimate understanding of others. This chapter will focus upon the process of teaching music, not as an additional subject in the curriculum, but as a vital and contributing part of a good program of learning in the elementary classroom.

Music as a Means of Self-Expression

Music offers to each child an opportunity to express his ideas, thoughts, and feelings. The statement that music is an expressive art may seem to pose a threat to the classroom teacher who feels somewhat inadequate when the word "art" is mentioned. Unfortunately, if such a feeling exists, it is undoubtedly a result of that individual teacher's own training or background. It should help all teachers to realize fully that, as Seashore says:

All art is play, and the charm of music, the purest form of art, lies fundamentally in the fact that it furnishes a medium of self-expression for the mere joy of expression and without ulterior purpose. It becomes a companion in solitude, a medium through which we can live with the rest of the world. Through it we express our love, our fears, our sympathy, our aspirations, our feelings of fellowship, our communion with the Divine in the spirit of freedom of action.²

Many adults, including teachers, have a very limited attitude toward the arts because they have nurtured the popular misconception that some persons are creative and others are not. The truth is that *every individual* has great creative power. It is the development

² Carl E. Seashore, *Why We Love Music*. Philadelphia, Pa.: Oliver Ditson Co. (Theodore Presser Co., distributors), Copyright, 1941. (Quotation used by permission.)

of this power which demands our attention, for one who narrows his expressions to the things which he believes or knows he does well limits the pleasure and satisfaction of his very life.

An individual can and should make good use of several channels of expression. Verbal expression is the channel with which many of us feel most comfortable. Perhaps the reason for this is that verbal expression is imposed upon human beings by the necessity for communicating through the spoken word. Music offers children another satisfying means for communication. Anyone who has ever observed a group of children "making up" words for a well-known tune, a new melody to be used in expressing an idea, or harmonies for a familiar spiritual or folk tune can recall the distinct atmosphere of "belonging" which was experienced by the group members. They were sharing ideas through the medium of music. They were making music together!

Music originates wherever people have feelings they wish to express or share with others. Improvement of performance skills helps the individual to become more proficient in expressing his thoughts, moods, or ideas. The refinements of performance in the concert hall are an extension or an outgrowth of the development of the performer's expressive powers. And how does one develop this ability to express? Although the answer may seem trite or obvious, one learns to express by giving spontaneous and uninhibited release to his feelings and ideas—by actually using his own creative power. The beginnings are simple, and these are often provided by the children themselves as they "make up" tunes as a means of communicating while at play. But each expression, met by a receptive yet never overanxious audience, will encourage the child and the group to further creative effort.

The teacher who hopes to guide children in the use of music as a means of self-expression might well examine the familiar process employed in helping children improve their spoken communication. In the area of verbal expression the wise and resourceful teacher guides the child in the development of his ability to make use of the medium of speech to communicate his own ideas and to understand the ideas of others. The teacher realizes that the very word "edu-

cate" means "draw from" or "lead out." It is at once evident that this definition can in no way be construed to mean "pour in." The purposes of educating should be to show people that they have powers and to help them realize their powers. In musical expression the desired goal is self-expression—of the child himself—and not a continuous parroting of the teacher's ideas.

But are all children capable of expressing themselves through music? Most certainly every human being is endowed with a measure of ability and can thus respond to a musical stimulus. This is not to say that all people are potential concert performers. One of the most valuable social aspects of music is that people of varying talents and backgrounds can participate together. In the elementary school our concern is not with the development of highly trained professional musicians, but rather with the guidance of all children in the free expression of their feelings, thoughts, and ideas through music.

In practice, our program of music education in the elementary school has often been merely a "training program" for the sole purpose of preparing students to participate in school choral and instrumental groups. To be sure, such participation can prove highly desirable and rewarding to the individual—but what of those children who were not considered worthy of actual participation in such a training program? Too often these children have been designated as "blackbirds," "nonsingers," or even as "monotones" at an early age. When this happens, the children themselves draw the logical conclusion that they have no talent or musical ability. From this moment on the education of these children will produce little if any musical growth. Indeed, because of their feelings of inadequacy, they will often develop an aversion to all music participation.

It is of the utmost importance for *every* teacher to realize that *all* children are capable of growth in their ability to respond to and participate in musical activities.

If a child is to be "free" to express, he must feel secure in the use of the medium. This security can be developed only if the child is afforded abundant opportunities to make use of the medium in diverse ways. These ways include singing, rhythmic activities, the playing of instruments, listening, and creating. Each of these ac-

tivities will be explored in the course of this chapter. Further suggestions for guiding activities may be found in the chapter bibliography.

Music as an Avenue to Self-Appreciation

Music as an expressive art can reach into the individual and can influence personality. By expressing themselves through music children can develop an appreciation of self. Through actual participation in musical activities, the child develops a feeling of competence in his ability both to express musical ideas and to win group acceptance. Since every individual needs to feel satisfaction in accomplishment as well as in a sense of belonging, this outgrowth of music participation is far more important and desirable than might appear to the reader at first glance.

Singing and the playing of musical instruments offer important means of self-discovery. Participation in vocal and instrumental music provides a very natural environment for the feeling of identification. The child who sings or plays an instrument finds that he has a "membership card"—one that affords him a sense of belonging to the chorus, orchestra, or band. These are important prestige groups. As the child develops his talent through participation in music, he reveals to himself an ability which he and others can respect. This recognition of ability contributes in a worthwhile way to a realistic self-appreciation, and it also serves as a strong motivation for further musical growth.

If children are to develop their competencies in music to such an extent that self-appreciation is both satisfying and challenging, they need continuous encouragement. In thinking of encouraging children to use music as a medium of expression, it is important to keep in mind the fact that a high degree of skill or understanding of the theory of music is not a prerequisite. Mere memorization of facts about music notation should not be the goal of music teaching. When doors are opened and curiosity about the beauty of *sound* is aroused through a profusion of interesting activities, one may rea-

sonably expect that the outcome will be a growing desire for further participation and further learnings about music. Music participation as a group member can arouse in pupils an awareness of the need for a more thorough study of the mechanics of music. Whenever this interest is evidenced by the child—whenever the child himself realizes that he must learn more about music notation if he is to be able to express himself adequately—he should be given further guidance in the organization of his learnings about music. The key to preparing for and encouraging just such a “moment” of keen interest and realization lies in the careful planning of music activities. If a child has an adequate background of participation in rhythmic and singing activities, and if his ear has been carefully attuned through listening, that child can easily learn that there exist symbols for the sounds which he recognizes and has come to enjoy. He can then be guided in his search for the symbols that can be used to tell others of his own musical ideas. From this approach the actual translating of others’ musical symbols is a logical step. And thus the excitement of music reading can be discovered through adventure rather than through a relatively uninteresting rote-drill approach. It is highly important to note that musical learning and the enjoyment of music need not be incompatible.

In an adequate program of music education there must be a continuous search for and encouragement of the gifted child. Whenever a child gives evidence of enough ability to warrant special instruction, he should be encouraged to take advantage of whatever special instruction is available, either through the school or outside its ministration. Since the development of children along musical lines is a continuous process, and since children mature at varying rates of speed, teachers must be ever watchful for indications of ability that would make possible any single child’s benefit from special music instruction. Such indications may be evident in some children in the intermediate grades, and they may not appear in others until those individuals are older and more mature physically and emotionally. There must be encouragement and opportunities for further growth wherever and whenever the individuals can benefit from them. Throughout the music program the primary objective

must be the guiding of children in the enjoyment of music. This enjoyment can be realized when each child participates as best he can.

Music as a Means Toward Clear and Intimate Understanding of Others

Music gives richness and increasing meaning to life when it is related to literature, art, activity, and people—all of life that is familiar to children. Since life is a process of expression and impression—of giving and receiving—we need to be cognizant of the necessity for providing an atmosphere rich in natural stimuli for expression.

The program of music listening contributes significantly to the background from which an individual expresses. Since the beauty and charm of music are in its *sound*, the emphasis should be continuously upon what we hear in the music. Listening should be a part of every musical activity. In addition to listening while we sing, while we play, or while we engage in rhythmic activity, there should be a more formal type of listening designed to help children appreciate mood, movement, tone color, communication of a literary idea (story), or poetic expression in the music. An adequate listening program should include expressive music of all types: (1) that which creates a mood or paints a specified musical picture (e.g., Saint-Saëns: *The Carnival of the Animals*; MacDowell: *To a Water Lily*; Grofé: *Grand Canyon Suite*; Smetana: *The Moldau*; Beethoven: *Symphony Number 6*); (2) that which tells a story through music (e.g., Dukas: *The Sorcerer's Apprentice*; Saint-Saëns: *Danse Macabre*; Tchaikowsky: *Nutcracker Suite*; Schubert: *The Erl King*; Strauss: *Till Eulenspiegel's Merry Pranks*; Stravinsky: *The Firebird*); and (3) that which may be appreciated solely for its intrinsic beauty (symphonic, chamber, and solo literature which has no definite programmatic background).

When planning a program of music listening for young children we must consider the length of time the children will be required to be attentive. Although a young child cannot control his span of attention for a period of time sufficient to permit his listening to ex-

tended compositions from beginning to end, he can listen to single short movements or to portions of these carefully selected for their unique expressive qualities or for the contribution which they can make to the development of understanding.

In selecting recordings for listening in the primary grades the teacher will need to select examples of three types: those which clearly suggest rhythmic or dramatic responses; those which suggest contrasting moods; and those which are based upon stories. The teacher can help the children hear more in the music by asking questions: Does the music sound happy, sad, gay, or quiet? Does it make you think of walking, running, skipping, jumping, marching, or hopping? Does it sound light like elves or goblins, or does it sound heavy like elephants or bears? Such questions can stimulate the imagination and lead to increased enjoyment in listening.

A composition with a story especially appropriate for listening in lower grades is *Peter and the Wolf*, by Prokofieff. After hearing the record, children can be guided in their appreciation of the selection of instruments used to portray the several characters. Why was the flute used to represent the bird and the clarinet to portray the cat? Why were not these instruments interchanged? Children will soon be able to answer that the flute *sounds* like a bird, while the sound of the clarinet makes one think of a cat creeping up on its prey.

Children in the intermediate grades can be helped to understand music as a means of learning more about customs and peoples of other lands. For example, polkas can be selected from numerous larger works such as *The Bartered Bride*, an opera by Smetana; *The Age of Gold*, a ballet by Shostakovich; *Schwanda, the Bagpiper*, an opera by Weinberger.

The teacher may wish to call attention to different ways in which composers have expressed in music a single specific idea such as that of a storm (Rossini: *William Tell Overture*; Grofé: *Grand Canyon Suite*; Rimsky Korsakoff: *Scheherazade*; Wagner: *The Flying Dutchman*; Beethoven: *Symphony Number 6*). Similar studies could be made of musical portrayals of moonlight, water (including sea, lakes, rivers, and streams), and dances descriptive of life in a particular country. Whenever programmatic music is used, the teacher should make certain that the children understand that music

with a story or literary background is only one type of musical composition.

Some excerpts and examples without programmatic reference should be selected on the basis of the mood, feeling, or texture they convey. In presenting such selections, the teacher must be exceedingly careful not to impose *his* interpretation as *the* interpretation. If a child is to feel free to imagine or to express his ideas, he must never be allowed to feel that his interpretation is *wrong*. There may be differing ideas, feelings, or interpretations stimulated by a single musical selection. These need not always be discussed. When children themselves give evidence of a desire to share a feeling or interpretation, they should be encouraged to do so. However, children should never feel forced to express verbally their feelings about music. The question, "Do you like that music?" should be avoided because it serves no constructive purpose. A teacher can tell from facial expressions and attitudes whether or not children are enjoying a particular musical activity or a specific selection.

A well-planned program of music listening can help older children develop an understanding of expression through form in music (e.g., theme and variations, as exemplified in Benjamin Britten's *Young Person's Guide to the Orchestra*; A-B-A form, as in Prokofiev's "Gavotte" from the *Classical Symphony*; sonata allegro form, as employed by Mozart in *Eine Kleine Nachtmusik*; rondo form, easily distinguished in the third movement of Mozart's *Piano Concerto Number 25 in C Major*). As they are exposed to more and more music, children can be guided in their associations of style with composer and period in the art form of music. This recognition of style can come easily and simply as the child himself notes that a "new" composition by Mozart resembles another familiar one by the same composer.

Operas can be very interesting to older children when they are selected carefully and their stories abridged and shortened so that the presentation includes the more tuneful or descriptive musical excerpts. Among the appealing stories are those of the operas *Hansel and Gretel*, by Humperdinck; *The Barber of Seville*, by Rossini; *The Magic Flute*, by Mozart; *Lohengrin*, by Wagner; and *Amahl and the Night Visitors*, by Menotti. The operettas of Gilbert and Sullivan

also provide an excellent step toward the appreciation of expression through the operatic form. The study of operas can be made vital and interesting through the use of sound films.

As the child learns to regard music as an art which is expressive he will look forward with keen interest to all that he can learn through music about other people, lands, and customs. For not only will he be placed in close companionship with his classmates through participation in group musical activities, but he will learn from the music something of the thoughts, moods, feelings, and customs of peoples of all lands and cultures.

Factors Contributing to Learning in Music³

Classroom Atmosphere

If music is to serve as a means of expression the classroom itself must provide an encouraging environment. There should be space adequate for rhythmic activity so that the pupils may move about freely whenever this means of expression is appropriate. If a great amount of furniture moving must take place before children can skip, hop, jump, march, or be kangaroos, the "urge" and spontaneity may well be gone before the expressing can begin. The instruments which might be selected by the children as an aid to musical expression should be readily available at all times—never locked in a closet waiting to be distributed once a week at the teacher's convenience. Children should be encouraged to make free use of these "aids." They may include many different rhythm instruments which can be used to simulate various types of sounds or to indicate mood; tuned bells which can be used singly for effects or harmonically for accompaniments; autoharp and piano. Melody instruments, such as recorders, tonettes, song flutes, and melody flutes, should be available in the intermediate grades.

Each child should have at least one music series book; if possible a second set of books should be available for variety and wealth of interesting material. A record player of good quality—one which can

³ General factors contributing to learning are discussed in Chapter 1.



Jumping, climbing, playing ball—outdoor free play needs sufficient space and good equipment to provide challenges and growth in athletic skills. Indoor activities can broaden the variety of the physical-education program, and can also be integrated with other subjects in the curriculum, such as drama, music, and social studies. (Photo: Oak Park, Illinois, Elementary Schools.)



Music is a social activity during this Christmas concert. Everyone likes singing the familiar songs, and the boys and girls who play instruments get special recognition today when their music-making helps the festive occasion. These children learn, in their ordinary music lessons, to compose their own songs, practice choral singing and listen to serious music, all of which can become lifelong interests. (Photo: Decatur, Illinois, Public Schools.)

play discs recorded at each of the various speeds—is necessary. Basic recordings should include those which accompany the music series books, the *RCA Victor Record Library for Elementary Schools*, and a variety of fine recordings of both vocal and instrumental music.

Films, film strips, and the projectors necessary for their use should be available. Art materials that can be used easily for graphic expression during music periods should be accessible. In the upper grades there should be books about music and its origin attractively displayed and readily available.

In every room there should be pictures which are capable of stirring the imagination and of inspiring creative effort. These should embrace the whole history of mankind and serve as a connecting link between the pupil and the world in which he lives, and they may often be correlated with other studies such as social studies, art, literature, and science. On other occasions, pictures may be selected solely on the basis of their value and relation to current musical study. Pictures and art works should be selected with care, and displays should be changed frequently in order that there be fresh stimuli and that the classroom serve as a workshop conducive to self-expression and learning.

The Teacher

By far the most dynamic single factor in a successful music experience is the teacher; his attitudes, goals, and teaching skills determine the program. The way in which he views his job is of the utmost importance. The quality and consistency of musical growth of the students will depend in large measure upon the quality of continuing personal growth and human understandings characteristic of the teacher himself.

The teacher should be

A learner;

An explorer;

An imaginative individual;

One interested in the development of children;

One who can reveal to boys and girls something about themselves through response to music.

He must be thoroughly aware of the advantages of music and of the unique contributions which it can offer to human life. He must seize every opportunity to permit and encourage children to participate in music and to express their ideas and feelings musically. He must understand that music need not be confined to a so-called music period of twenty or thirty minutes' duration; it can and should be employed wherever a tune, a song, a singing game, or a musical composition reproduced on the phonograph can serve to express an idea, illustrate a point, enhance understanding, or merely provide a pleasant relief from tension or a "change of pace."

An effective teacher will respect not only his pupils but also all the material which he is presenting. If the pupils are to enjoy and profit from their musical experiences, the music selected for their activities must be of a quality capable of evoking a musical response. A reasonable guide for the selection of valuable music might well be the ability of the teacher himself to find lasting enjoyment in the repetition of the material under consideration.

It will be noted that in the description of the teacher who is to be responsible for the musical guidance of boys and girls a high degree of personal musical proficiency was not stressed as a necessity. Many classroom teachers who skillfully guide boys and girls in worthwhile and significant contacts with music are themselves music lovers who have had limited opportunities to develop their own musical competencies. Their enthusiasm and ingenuity in organizing pleasant musical activities, their adventurous spirit, and their own eagerness to learn have stimulated great strides in learning on the part of the children they teach. Such teachers invariably find that their own musical abilities and understandings are developing as they teach and participate in music with their pupils.

The Music Specialist

Classroom teachers who have a strong desire to teach music effectively will find help and guidance from a music specialist exceedingly valuable.

One alert upper-grade classroom teacher became interested in encouraging more extensive correlation of art, music, literature, and social studies. She mentioned to the music specialist that her class

would soon be studying the geography, industry, and life of the people living in Hungary. The music specialist volunteered to help the classroom teacher guide the children in their search for descriptive Hungarian music. In the musical dictionary they discovered that Hungarian music could be found in the Hungarian dances of Brahms, the Hungarian rhapsodies of Liszt, the "Rakoczy March" as introduced by Berlioz into his *Damnation of Faust*, and the peculiarly nationalistic music of the twentieth-century composer, Bela Bartok. The class decided to listen to a number of these contrasting musical expressions. The music specialist secured the recordings and the classroom teacher played them for the group. She took great care to present them as reflections of various phases of Hungarian life as perceived by individual composers living under different conditions.

After the class had heard this descriptive music the music specialist guided the class in a study of the rhythms of the various selections which portray aspects of Hungarian life. He then helped the class learn several of the Hungarian dance tunes. The classroom teacher then encouraged the composition of original lyrics arising from the study of the country and people. At the classroom teacher's request the music specialist guided the pupils in the selection of rhythm instruments with which they could provide appropriate accompaniments for their own singing of the songs. The music specialist also added interest to the singing by providing piano accompaniment.

Each classroom teacher should seek help and should work with the music specialist in developing a program of activities appropriate for his own class. In addition to helping with the planning and the finding of materials, the music specialist can be of inestimable help right in the classroom, engaging in the musical activities along with the cooperating teacher and the pupils wherever and whenever possible.

A classroom teacher can also gain assistance from the music specialist when planning for the students' learning of and about music. If such learning is to be encouraged, it is essential that there be set aside time during which planned activities in music are themselves carried on in such a manner that musical growth is likely to occur. There should be ample exploration by the teacher as well as by the pupils, for through exploration we discover power we did not know we possessed. To insure more adequately the desired growth and development along musical lines, the teacher must, of course, provide opportunities for the pupils to plan and participate in many activities embracing all phases of the five-fold program: singing,

rhythmic activity, listening, playing of instruments, creating. The music specialist should serve as a resource person and as a co-worker in the planning, organizing, and leading of activities.

Organization of Activities

If music is to serve as a continuing and vital force in the lives of boys and girls, much thought must be given by the teacher to the organization of experiences.

An ideal school music curriculum should provide sequences of orderly, cumulative experiences based upon the growth needs of children. A curriculum in which learners are able to move easily and naturally is one adapted to the maturing capacities, interests, and purposes of growing children.⁴

One can see at a glance that this places no small responsibility upon the shoulders of the teacher. It seems quite in order to consider here the exciting possibilities open to teacher and pupils who set out to share together the adventures of self-expression and learning to understand others through music. But first, in order to establish a common frame of reference, let us look at the prevailing practice of music teaching in the elementary school.

Traditionally, the classroom music program has amounted to relatively infrequent periods devoted to the singing of songs. In the lower grades the music offering has sometimes been "broadened" to include playing rhythm instruments, dramatizing some songs, and listening to a few records chosen by the teacher. These separate activities are worthwhile, but they are quite often entirely unrelated. A rather common pattern for elementary music teaching has been found to contain many periods devoted entirely to singing. An occasional separate period has been set aside for rhythmic activity. One day a week may have been "the day for listening," when the children have often been expected to spend the entire period listening to recordings.

In the upper grades teachers have attempted to "drill" pupils on the fundamentals of musical notation. Almost invariably they have discovered that the activity has proved boring and has resulted

⁴ Lilla Belle Pitts, *The Music Curriculum in a Changing World*. Morristown, N. J.: Silver Burdett Company, 1944, p. 115.

in relatively little learning or "carry over" because the preceding experiences with music have been meager.

Only occasionally have pupils been encouraged to express themselves—their own thoughts, moods, or feelings—through music. Opportunities to explore the vast and exciting world of great music literature have been almost entirely neglected. Music listening—the very core of an aural art—has been included in classrooms on such a limited scale that most pupils have had little opportunity to develop an understanding of "how" to listen to music.

Surely it is evident that a classroom organization which provides for limited participation in musical activity and little contact with music itself cannot be expected to develop a background rich in experiences from which a child can draw for self-expression.

Contrast with this picture of the "traditional" music teaching organization a description of a music period observed recently in the third-grade classroom of Mr. Black.

Mr. Black began his music period by humming softly a melody which was familiar to the boys and girls. Immediately hands were raised and alert faces indicated that the children recognized the tune and were ready to sing the song. After the group had sung the song, which was about a telephone, Mr. Black asked if anyone could suggest an instrument which could help provide an accompaniment for the singing of the song. The attention of the children turned to the various bells, drums, sticks, cymbals, jingle clogs, sand blocks, tambourines, and triangles arranged attractively on one of the open shelves beneath a window. Many children were eager to offer suggestions. Mr. Black asked Jimmy to select the instrument which he thought would best fit the song. Jimmy stepped to the table and selected one of the tuned resonator bells. Mr. Black, wisely attempting to guide Jimmy without discouraging his effort in any way, asked Jimmy to try the bell to see if the sound were as much like his telephone bell as he had wanted it to be. After trying the bell, Jimmy shook his head and volunteered that the sound was more like a door bell. Mr. Black suggested that Jimmy make another selection. This time Jimmy selected a triangle and, with Mr. Black's guidance, moved the beater quickly between two sides at one corner. The class approved of Jimmy's selection, and the song was sung with the sound of the ringing telephone at just the appropriate times.

Mr. Black next asked the children to think of different kinds of bells. There were many responses: church bells, door bells, alarm-clock bells, bicycle bells, sleigh bells, dinner bells, and the like. One

boy remembered the "morning bells" mentioned in a round learned the previous week ("Are You Sleeping?"). Mr. Black asked if the boy might like to select an appropriate bell to play during the class singing of that song. After the group had sung "Are You Sleeping?" in unison, Mr. Black explained that if the song were sung as a round and each section had a bell accompanist who played each time his own section sang "ding dong ding," there would be bells ringing through more of the song. Mr. Black then selected a bell singer for each section, and the class sang the song as a round.

Mr. Black said he knew a song he thought the boys and girls would like. He said the words didn't mention bells, but he thought bells could be used after the song had been learned since the song was about a sleigh—and, of course, a sleigh would have bells! Mr. Black proceeded to sing the rhythmic song about the sleigh. He then asked the boys and girls whether they thought a song about a sleigh should be heavy or light, fast or slow, sad or happy. Since most of the boys and girls thought it should be light, fast, and happy, Mr. Black asked how they thought the sleigh-bell accompaniment should be played. When they agreed that the accompaniment should "sound like the sleigh," Mr. Black said he would sing the song again if Sally, Dale, and Susan would play the sleigh bells whenever they might help. Mr. Black repeated the singing a third time and the children sang along with him on the parts they could remember.

Mr. Black then told the children that he could think of some instruments which could be used for producing bell-like sounds and for playing melodies in the orchestra. He emphasized a point made earlier when the class had mentioned that there were many kinds of bells. He stressed the differences in quality and texture of bell tones, which could range from those which were small, light, and tinkling to those which were heavy and deep in tone. He told the class that he had selected two examples of bell sounds in longer pieces of music which had been written for orchestra. He said that both compositions had been written by the same man and that they would show how one composer could express very different moods through his music. Mr. Black told the children that as he played these recordings he wished the boys and girls would listen and try to decide how they thought the two selections were different. He asked the children to note particularly whether the bells sounded light or heavy, happy or sad. Mr. Black then played a portion of "The Dance of the Sugar-Plum Fairy" from *The Nutcracker Suite* by Tchaikowsky. He followed this with the playing of the part of *Overture 1812* (also by Tchaikowsky) in which the cathedral bells are rung in victory celebration. Mr. Black did not mention the names of the compositions before he played them. He did not ask the children to try to guess the specific idea which the composer might have been trying to con-

vey. Mr. Black's questions concerned mood and feeling. The responses of the children were both general and specific, but Mr. Black did not inhibit the use of imaginations in any way.

After the children had heard the recordings and had contrasted moods and feelings which they felt the music expressed, Mr. Black told them that on the following day they would play some familiar melodies and accompaniments on their own tuned resonator bells.

It is evident that in Mr. Black's music period the children sang, engaged in rhythmic activity through the playing of appropriate rhythm instruments, listened to some music, and were creative both in accompanying their singing and in their attention to expressive qualities of the music. Yet these several activities were related through the point of focus which was upon bells. An adventurous teacher can help children learn by organizing a variety of classroom activities around a central idea. This idea may be related to social studies units, literature, art, nature, or it may be centered entirely upon growth in musical understanding.

Musical Activities

The diverse types of musical activities make unique contributions to the development of the child's ability to make use of the medium of music in expression. Often these activities can be combined in a very natural way which leads to increased understanding. Many classroom teachers welcome the opportunity to explore and to teach music creatively. Let us consider specifically a few of the ways in which individual creativity can be encouraged through the more frequently used musical activities—singing, rhythmic activities, the playing of instruments, and listening.⁵

Singing

Singing affords great pleasure to children. When children are given frequent opportunities to sing together, the result is one of joy and satisfaction. When children participate daily in singing activities they can be guided to an acquaintance with the rich heritage of song literature which rightfully belongs to all of them. As each

⁵ Space limitations prohibit our exploring each of these intensively. Further help and suggestions will be found in the selected readings.

child's repertoire of familiar songs increases, his enjoyment of singing is enhanced. Through careful guidance every child's skill in singing can also improve. This development of ability can best be ensured by the encouraging teacher who understands that every child **can improve his singing.**

It is highly desirable to think of our singing and the singing of children as being fundamentally social. If we are to teach children we must share with them in their play and enjoyment. Why not sing with them? If parents and teachers could feel that there is no difference between singing and talking as far as inhibitions are concerned, the result would be a giant stride in the direction of happy, **free self-expression.**

Through singing children can also find an outlet for creative powers of which they were unaware. Children very naturally sing about their activities when they are happy or at play. One very common occurrence is the telling of a discovery in the time-tested, untutored, and universal children's "chant":



I know a se-cret

I see - John - ny

or

I found a pen - ny

It is a simple step from this chanting to making up original words to fit other familiar tunes or to creating whole musical phrases and original tunes. Through these "new songs" children may tell classmates of their observations and plans, or of points of interest they have learned about another land or other peoples in a social studies lesson. If children have enjoyed their singing together, the teacher will find that his suggestion for this type of expression will meet with an **enthusiastic response.**

It is, of course, not necessary that all of these creative efforts be recorded. Indeed, the attempt to write down the tunes could in many cases stifle the very urge to express. Music is an aural art—its beauty is in the sound rather than in the appearance of the notation. The greatest satisfaction which children derive from their crea-

tive effort is that of actually singing the tune—of communicating through melody and rhythm at the moment. Written notation as a means of recording the tune can be enjoyable only after a child has had many musical experiences and has reached a relatively high degree of musical maturity based upon this background of extensive participation. In the upper grades the notating of creative efforts can be a pleasant and profitable means of discovery and adventure in music theory.

Rhythmic Activities

Unlimited possibilities for musical expression are afforded through participation in rhythmic activities. We recognize rhythm as one of the elements of music, and we find that throughout the ages people have responded to the rhythmic compulsions of music. In planning for musical growth through rhythmic response it is important to study carefully the way in which a child develops. We must follow the child's own road in development if real learning is to take place. A teacher must recognize that in the child's pattern of growth early learning involves the total body. Sensations come before sensibilities. Bodily movement comes ahead of seeing or hearing. Reflex action precedes conscious activity.

Almost all vocal and rhythmic expression is accompanied by bodily motion. A young child of pre-school age is under the law of diffused or unfocused bodily movement. As he matures and is afforded frequent contacts with music which has marked pulsations, he will learn gradually and progressively to focus and to control his responsive motions. If a child behaves naturally he will not listen to music in absolute quiet or bodily motion. A child will instinctively "do what the music tells me." With guidance through listening children quickly note the differences among rhythms which suggest running, walking, skipping, hopping, jumping, dancing, leaping, marching, etc. They enjoy responding to such suggestive rhythms with large bodily motions.

Participation in folk dances and singing games can provide a splendid opportunity for boys and girls to respond to rhythmic stimuli in an organized and guided manner. Through these activities the child can develop control over his responses. The development

of this control over the timing of responses to rhythmic stimuli will permit the child to make use of a tinkling bell at just the right moment during the singing of a song, to play a drum effectively as an accompaniment for a marching song, or to strum an autoharp in the various rhythms suggested by songs being sung in the classroom.

The playing of rhythm instruments can contribute substantially to musical development if children are given ample opportunities to select those which are most appropriate for the effective expression of the contrasting ideas within the musical selection being used as a basis for their playing or singing.

Children often enjoy "creating" rhythm instruments. They can discover the pleasant sound produced by their very own maracas (dried gourds or medium-sized prepared biscuit tubes into which have been placed tablespoonfuls of rice grains), drums (hides or inner tube materials stretched and fastened over kegs or large cans), sand blocks (medium-sized wooden blocks covered with sand paper), and other instruments which the children themselves can plan and make.

Playing Instruments

Children can give expression to musical ideas through the playing of instruments. Often the shy child who finds the very personal expression of singing somewhat painful will gain great pleasure and satisfaction through the medium of instrumental music. The child who has obvious musical talent will find the playing of an instrument an additional and helpful avenue to self-expression through music.

The playing of instruments need not and should not be completely divorced from other classroom music activities. Simple melody instruments (recorders, song flutes, tonettes, melody bells) and rhythm instruments should be a vital part of the classroom music program. In addition to providing pleasant moments, they can contribute substantially to musical growth when employed as supplemental tools useful to the development of ability in music reading. Playing and singing can be alternated, or class singing can be enhanced by instrumental accompaniment.

Class singing can be accompanied by the playing of an autoharp. Children take great pleasure in playing this instrument. Many

of the newer music series books include printed indications of appropriate chords for accompanying the songs to be used in middle or upper grades. Children in the upper grades can also learn to let their ears guide them in selecting chords to accompany the singing of familiar songs.

Tuned resonator bells (single bar type) provide children a clear means of melody-making, graphic and enlightening experiences in scale and arpeggio construction and sound, and a pleasant means of harmonizing and accompanying their singing. Each child can hold a single tone bell and beater, and he can play his tone at the appropriate time in the melody sequence. At first the teacher can point to the children as their individual notes fit into the melody. Gradually, the children can "read" the music and play their notes when they occur in the musical notation. Tuned resonator bells can also be used to supply the harmonization for class singing. In the early grades, single tonic and dominant chord roots may be played. Building upon this experience, children may add the other notes of the tonic and dominant chords. Pupils holding single tone bells can be grouped according to chord tones (those tones which make up the tonic or do-mi-sol chord standing together; the members of the dominant or sol-ti-re chord in another group; and the sub-dominant or fa-la-do members in still another cluster). Here the chord indications which are printed in recent music series books will again prove helpful. Where printed indications are not available, the teacher can indicate the time for each chord-group to play by simply pointing in the direction of the group at the appropriate time. After a class has had a considerable amount of this type of experience, the teacher can call upon capable pupils to act as group leaders. The next step would logically be for the teacher to guide the children in their selection of chords for accompanying their singing by suggesting that each child listen carefully to the sound of the chord of which he is a member and then let his ear "tell" him when to play.

The playing of orchestra and band instruments offers another exciting avenue for expression through music. Beginning instrumental instruction is most often carried on by a music specialist outside the regular classroom music period. As soon as a child has developed his playing skill to the point where he can demonstrate his instru-

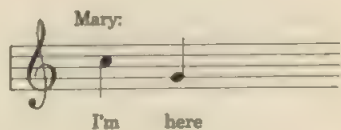
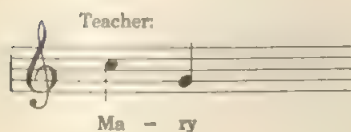
ment or play along with the classroom singing, the teacher should find opportunities for him to use his instrument in the classroom. Instrumentalists as individuals and in groups can add richness and variety to the class room program by giving demonstrations of the instrument, which helps other students become aware of the instrumental colors and capabilities, and by providing accompaniments for class singing. When choices of instrumental accompaniments are possible, the children can select those which seem to them to provide appropriate color for the musical sound of a particular song. Several of the more recent music series books have included the printing of accompanying parts in the proper keys for band and orchestra instruments.

Listening

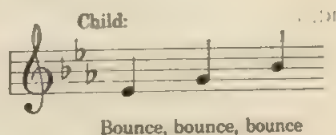
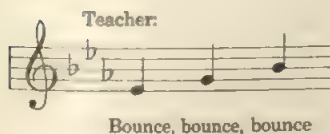
Listening, or learning to hear music, is one of the most important aspects of the music program. The quality of a child's listening experience has a far-reaching effect upon music responsiveness and the background from which the child can express. From the kindergarten age children can be encouraged to distinguish between musical examples of high and low, light and heavy, soft and loud, fast and slow, happy and sad, gentle and fierce, calm and stormy. If the teacher can play the piano, he can tell stories accompanied by descriptive chord sequences or melody lines. The teacher who does not play the piano will find listed in the bibliography sources of records which can be used for this purpose. Through this means, children begin to develop an awareness of the expressive quality of music. Building upon this foundation, children in the middle grades can suggest appropriate accompaniments for stories or poems. Following this experience, the children can make up stories and the "mood" accompaniments which fit them.

The resourceful teacher will find that developing new games which involve careful listening can do much to improve the ability to hear. A type of listening activity which can be used in primary grades is that of matching tones or patterns sung or played by the teacher.

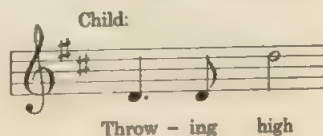
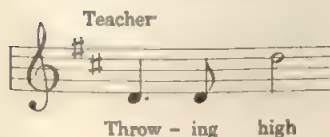
The "calling of the roll" is a helpful tone-matching device. The teacher can sing the name of the child on two different tones and the child whose name is called can answer on the same tones:



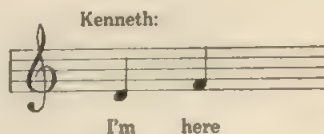
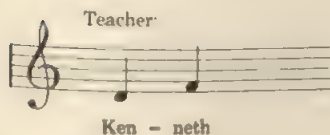
"Bouncing of balls" is another game in which the teacher "bounces" to the child and the child returns the tonal "ball":



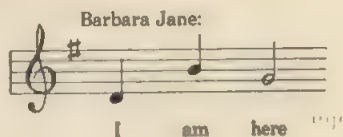
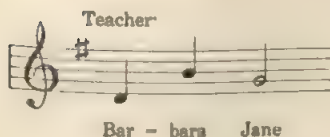
or



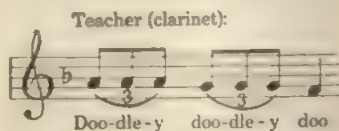
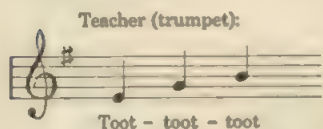
In such a game it is important for the teacher to vary the tones or patterns frequently. The pattern sung to a child should be within the range capability of his voice so that he can repeat what he hears.



or



The imaginary "playing" of musical instruments offers another variation of the idea:

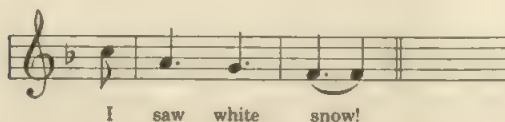


Seasonal interests such as Christmas gifts desired or signs of spring observed on the way to school can provide foci for tone-matching "games."

A fascinating variation of tone matching or "echoing" activity is the answering phrase. The teacher can sing to one of the pupils a question which encourages a balancing or ending to the musical idea:



The pupil can reply with his own idea in his own "tune":



or

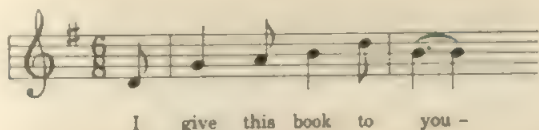


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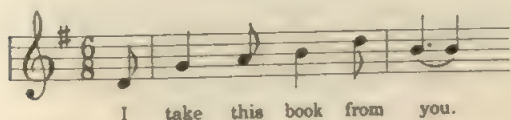
I saw fire - en-gines speed-ing.

A typical listening game for use in the intermediate grades requires that children close their eyes while the teacher gives an object

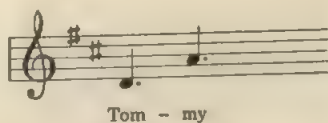
(book, bell, or some other item) to one member of the group. As he places the object in the hands of Sally, the teacher makes up a melody:



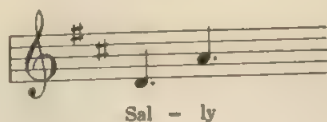
Sally then opens her eyes and answers with the same tune:



The other children (keeping eyes closed) try to guess who sang the answer. They raise their hands if they think they know, and the child who received the book calls upon one with hand raised by singing his name on pitches which she herself selects:

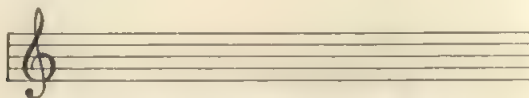


Tommy then sings on matching tones the name of the person he believes received the book:



If Tommy has guessed correctly, he can open his eyes, take the book from Sally, and give it to another child who has eyes closed.

As he hands the book to the child, Tommy can sing his own little tune for the words:



I . give this book to you -

The game can continue with the new recipient matching Tommy's tune.

Focusing attention upon descriptive sounds leads naturally into creative and imaginative listening to recordings of music. This vital aspect of musical growth should be a regular and frequent part of class music activity. A point of view on acquainting children with the wealth of music literature has been presented in the section entitled "Music as a Means Toward Clear and Intimate Understanding of Others."

Creating

Although creative approaches to singing, making and playing of instruments, rhythmic activity, and listening have already been suggested, it is in order for us to mention here the possibility of creative music composition as an activity growing from a child's many other experiences with music. We have noted how the child in the primary grades can be encouraged to express his ideas freely in song form without thought of "formal" composition. Classes of intermediate and upper-grade children can compose tunes to be played on instruments. They can create expressive tunes as settings for poems which they particularly enjoy in literature, or for those which they themselves write.

In this latter activity pupils and teacher should choose words which are simple and which have rhythmic flow. After the words have been written on the chalkboard, the class can read the words in unison and thus establish a clear rhythmic pattern. The poem may then be written under a music staff with accented word syllables underlined.

If the activity is "new" to the pupils, the teacher may begin by

offering two or three suggested first phrase tunes. The children may choose one of these, or one child may suggest another which differs from the teacher's tunes. If the class has already engaged in this type of activity, the children themselves may suggest first phrase tunes. After the class has decided upon an acceptable first phrase, the teacher may notate this phrase and the whole class may sing it. (If the teacher prefers to use numerals or syllables for this notation instead of the regular notes and rests, he may do this and translate the numerals or syllables into notes at a later time. If he is able to write the notes on the staff quickly, he may do this as the children make their decisions.) After the class has sung the first phrase in unison, a member of the group may suggest a second phrase. This procedure can be repeated until the song is completed, phrase by phrase, with the entire group frequently singing the portion of the song already suggested and accepted by the group.

When the song is completed, the class can decide upon the meter signature and can place the bar lines before the heavily accented notes. Class members can decide upon a "comfortable" key and can fill in the signature. Gradually, as they gain experience in this type of activity, class members can take increasing responsibility for the actual notation of "their" song. Autoharp or piano chords may be added so that the children may accompany their own singing. In the upper grades, children may gain additional experience in working with notation by writing out parts which can be played on their band or orchestral instruments. The purpose of this activity can readily be recognized as offering to children the pleasure of creative accomplishment. Musical composition affords children both a means of self expression, and an avenue to self-appreciation.

Evaluation

Evaluating the Music Activity

The teacher who wishes to help boys and girls experience the real pleasures and satisfactions which music can afford must first realize that *all* pupils possess musical aptitude in some degree. He

will then accept the challenge to make music a vital and indispensable part of the lives of all pupils by whatever means and to whatever degree this is possible in each case. It might be well to have in mind some criteria for evaluating a single musical experience:

Is the activity enjoyable?

Does the activity permit the child to express himself freely?

Does the activity reveal to the child something of himself?

Does the activity permit the child to become increasingly aware of the world around him?

Does the activity make possible further growth in musical understanding?

If the answers to these five questions are in the affirmative, one can be reasonably confident that the experience under consideration is a vital one.

Evaluating the Music Curriculum in the School

The success of the total music program must be measured by the importance of the role which music plays in the lives of pupils. By this statement we do not refer merely to the more glamorous aspects of the performance groups for a select few, but rather to the way in which music affects the everyday lives of all of the boys and girls. To put this premise another way, the success of the music program does not lie in the number of activities planned, or in the near-professional quality of the special instrumental and vocal groups in the upper grades. It does not lie in the number of public performances by the children, in contests entered and won, in operettas and stage shows produced. Success may not be measured by the fact that every child in the third grade can locate "do" in a given key. To be sure, many of these activities have their places of relative importance within the total music curriculum, but they must never be considered as ends in themselves.

The modern concept of education accepts the premise of John Dewey that the school must be regarded as an environment for living. This implies that the school is no longer considered only as the agency whereby students are "prepared for life," but rather as a

highly significant sector of life itself. If effective use is to be made of the time which pupils spend in school, there must be continuous evaluation of the curriculum in terms of its real contribution to the lives of pupils.

Alfred North Whitehead has set forth valuable considerations for curriculum development in his chapter "The Rhythm of Education." One important thought follows:

The problem of a curriculum is not so much the succession of subjects; for all subjects should in essence be begun with the dawn of mentality. The truly important order is the order of quality which the educational procedure should assume.⁶

We have stressed the fact that an effective music program is one which makes the child the center of focus and offers him many opportunities for musical growth. This growth concept is receiving widespread attention in education, but let us consider specifically what it means in terms of music. Our aim is to help each child develop within himself an awareness of the content of the expressive art of music. Since children differ widely in degree of musical aptitude, in background and interest, there must necessarily be many, many experiences with music if the student is to be musically responsive. These must be varied in scope and emphasis, but the musical quality must be present on all levels. It is not necessary to rise to a high level of sophistication in order to respond to the expressive qualities of music. Every activity should be so planned that it will evoke a musical response. This applies equally to the singing and dramatizing of a short song in the kindergarten, the motivation of creative efforts in pupils on all levels, and the discovery of the treasures of music literature as experienced by the advanced pupils in instrumental groups, choruses, and chamber ensembles.

Such a statement seems simple—but let us study carefully its implications. We are saying that no attempt to perform music should be devoid of appreciative qualities. We are saying that the *emphasis* should be upon the expressive quality of the music itself and not upon the so-called externals of music—the key signatures, the meter indications, the technique necessary to execute measure

⁶ Alfred North Whitehead, *The Arts of Education* (New York, N. Y.: The Macmillan Company, Copyright 1929). By permission.

fourteen of a Beethoven sonata before there is any clear notion of the composition itself, or of the musical meaning which it conveys. The study of basic music theory and the development of performance technique are unquestionably important, but they should be presented wisely when they have meaning for the learners. Their importance is determined by the contributions which they make to the performer's ability to play or to sing the music, and they should be taught in relation to the music itself. If the pupil recognizes that the ability to translate the symbols of notation is necessary if he wishes to perform the music before him, he will learn these much more readily than when the symbols are "taught" as drills or facts isolated from actual music. There must always be a high degree of coordination of listening and performing. Both approaches are necessary to an understanding of musical content.

It would be of little value to outline here a hypothetical music curriculum which might serve as a guide in evaluating the program in a given school. Individual differences, differences in background, community culture, and interests, would make this not only impracticable but undesirable. If any curriculum is to be adequate for a given community, it must be planned around the life needs and interests of *that* group. The curriculum must be built around the pupils themselves and must provide for learning which will contribute to their growth from that point. If pupils in the upper grades are interested in a certain definite type of music which is currently popular, their study might begin with this music and move gradually through similarities in rhythms, melodies, harmonies, form, or style to other types of music. In this way the teacher can capitalize upon motivation already present, and he can also lead pupils to broaden their musical horizons and interests. If students are interested in radio and television, the teacher may make excellent use of these media by obtaining advance musical program listings from broadcasting and television stations and then permitting the class to study ahead of the actual program the music which will be performed. This preparation increases listening enjoyment and helps make music seem more "alive" to boys and girls.

There are some guiding principles which would be of benefit

in the evaluation of any music curriculum. *First*, understandings are built upon experiences. Wide, varied, and vital experiences are therefore needed on all levels. There must be quick and direct contact with convincing music. Experiences which do not set up technical barriers are highly desirable. Those which utilize and build upon past experiences contribute to growth and learning. As the students grow through their experiences, new understandings and meanings are developed. On this basis pupils are ready for more and more experiences and thus greater learning. Our mistake in the past has been largely to assume that in order to derive enjoyment from the music it would be necessary for pupils to know all *about* that music and to have solved all of its technical problems before they could reach the music itself. Surely this is putting the proverbial "cart before the horse." Only in experiences with the expressive quality of the music will sufficient interest be generated to make true learning and understanding possible.

Second, the core of any adequate school music program is in the kinds of musical activities which are school-wide and school-penetrating, and which utilize community and life resources for growth and participation. Such a program will truly offer music for everyone. It should encourage the "bursting" of music from within the confines of the "music room," and it should transcend the "music period." Children themselves should carry music into all of their activities because it has become a part of them and because through their experiences they have come to see meanings and connections which both gather from and project into general culture. The key, of course, is in the wide spread of opportunities for musical experience. It is essential to think in terms of the program rather than in terms of the course.

The type of program which is designed to make music vital in the lives of all students may seem to some to lead to "mediocrity of musical performance." Not in the least! Performance of any kind cannot consistently transcend the quality of the individual's meanings. Ideas, meanings, and values wear out and must be replaced by new meanings emerging from experience by the developmental process (insight, thinking, deliberation). By committing ourselves to a curriculum designed to foster growth in all children on whatever

level they may be, we do not imply that we must do less for the musically "gifted" child. Quite the contrary. Through the very meaning of the "growth process" we are committed to helping the child with a higher degree of aptitude toward a greater realization of his potential. Through the wide program many more "gifted" children will be discovered, and performance—an outgrowth of the broad program rather than its immediate end—will undoubtedly be raised.

Throughout this discussion the pupil has been directly or ultimately the center of focus. Within the pupil, then, lies the answer to the question of the effectiveness of the curriculum. If our evaluation of the music program is to have any validity, we must certainly turn to the students for the final test. It is in the selections that the pupils make from their musical experiences and in the way in which music functions in their lives—both in and out of school—that the worth of the program must be judged. How do they respond to music? Do their faces and posture reflect their happiness when singing is suggested? Are they enthusiastic about their instrumental music, or do they habitually "forget" their horns? Are they eager to express themselves in some way through music? Can they listen to music with increasing understanding? Do they listen to music outside the school and do they feel free to share these experiences with others? Do they see connections between their musical experiences and their other learnings? Do they select musical expression as a means of occupying leisure time both in and out of school? Are they growing musically and developing new meanings as a result of their pleasant experiences with music? Have these experiences led to greater creativity, interest in, and understanding of music? Have their cultural horizons been broadened through music? Do they take an active part in planning for their own experiences and activities?

To be sure, evaluation upon this basis may seem unusual, but it is only through such an evaluation that real progress in the direction suggested can be made.

In summary, a successful music education program in the public schools would have these components: *First*, a thorough-going philosophy of education based upon the principle of many and wide experiences designed to promote musical growth; *Second*, a teacher

who is a musical person and who strives earnestly to implement this philosophy through a flexible and far-reaching curriculum which truly takes into consideration the needs, interests and aptitudes of *all* students; *Third*, a spirit of disciplined adventure. These should carry the school far toward making music vital in the lives of boys and girls.

SUGGESTED READINGS

Recent Music Series Publications

The guides, teaching suggestions, piano accompaniments, and recordings which are important and integral parts of the several music series can be of mestimable value to persons teaching music in the elementary schools.

The American Singer (ed. 2). New York: American Book Company.
(Edited by John Beattie.)

Music For Living. Morristown, N. J.: Silver Burdett Company. (Edited by James L. Mursell, Gladys Tipton, Beatrice Landeck, Harriet Nordholm, Roy E. Freeburg, and Jack M. Watson.)

Our Singing World. Boston: Ginn and Company. (Edited by Lilla Belle Pitts, Mabelle Glenn, and Lorraine E. Watters.)

A Singing School. Boston: C. C. Birchard Company. (Edited by Peter W. Dykema and Gladys Pitcher.)

Together We Sing. Chicago: Follett Publishing Company. (Edited by Max T. Krone with authors Irving Wolfe, Beatrice Perham Krone, and Margaret Fullerton.)

Other Suggested Readings and Materials

Singing Activities

BOOKS FOR PRIMARY GRADES

Bradford, Margaret, *Keep Singing, Keep Humming; A Collection of Play and Story Songs*. New York: W. R. Scott, Inc., 1946.

Coleman, Satis N., and Alice G. Thorn, *Singing Time* (1930). *The Little Singing Time* (1940). *A New Singing Time* (1952). New York: John Day Company.

Coleman, Satis N., and Alice G. Thorn, *Another Singing Time*. New York: Reynal and Hitchcock, 1937.

Crowninshield, Ethel, *Mother Goose Songs* (1948). *Sing and Play Book* (1938). *Stories That Sing* (1945). Boston: Boston Music Company.

- Landeck, Beatrice, *Songs to Grow On* (1952). *More Songs to Grow On* (1954). New York: Marks and Sloane.
- Seeger, Ruth Crawford, *American Folk Songs for Children* (1948). *Animal Folk Songs for Children* (1950). *American Folk Songs for Christmas* (1953). New York: Doubleday, Doran and Company, Inc.
- Tobitt, Janet E., *Songs to Grow On*. New York: Edward B. Marks Music Corporation, 1950.
- Wheeler, Opal, *Sing Mother Goose*. New York: E. P. Dutton and Company, 1945.

BOOKS FOR UPPER GRADES

- Coleman, Satis N., and Adolph Bregman, *Songs of American Folks*. New York: John Day Company, 1942.
- Cooper, Irvin, *Songs for Pre-Teentime*. New York: Carl Fischer, Inc.
- Foltz, David, and Arthur Murphy, *Descants to Sing for Fun*. New York: Mills Music, Inc.
- Krone, Beatrice, and Max Krone, *Our First Songs to Sing with Descants. Very Easy Descants. Songs to Sing with Descants. Descants for Christmas. Our Third Book of Descants. From Descants to Trios. Intermediate Descants. Songs for Fun with Descants*. Park Ridge, Illinois: Neil A. Kjos Music Co.
- Lomax, John A., and Alan Lomax, *American Ballads and Folk Songs*. New York: The Macmillan Company, 1934.
- Sandburg, Carl, *The American Songbag*. New York: Harcourt, Brace and Company, 1927.
- Siegmeister, Elic, *Work and Sing*. New York: W. P. Scott, 1944.
- Slind, Lloyd H., *Melody, Rhythm, and Harmony for Elementary Grades. More Melody, Rhythm, and Harmony*. New York: Mills Music, Inc.
- Tobitt, Janet E., *Git on Board*. New York: Edward B. Marks Music Corporation, 1944.
- Van Loon, Hendrik W., and Grace Castagnetta, *Christmas Carols* (1937). *The Songs America Sings* (1939). New York: Simon and Schuster.
- Wheeler, Opal, *Sing for America* (1944). *Sing for Christmas* (1943). *Sing in Praise* (1946). New York: E. P. Dutton and Company.

SOURCES OF RECORDINGS TO AID IN THE TEACHING OF SINGING

- American Book Company, 351 East Ohio Street, Chicago 11, Ill.
- Children's Record Guild and Young People's Records, The Greystone Corporation, 100 Sixth Avenue, New York 13, N. Y.
- Columbia Recording Company, 1473 Brannum Avenue, Bridgeport, Conn.
- Follett Publishing Company, 1010 West Washington Blvd., Chicago 7, Ill.
- R.C.A. Victor Educational Services, Dept. 390, Camden, N. J.

Recordings are available as teaching aids to accompany each of the recent music series publications listed at the beginning of this bibliography. The catalogs of recording companies such as R.C.A. Victor and Columbia Recording Company offer helpful classifications of educational records.

SOURCES OF FILMS AND FILMSTRIPS PERTAINING TO SINGING

Coronet Instructional Films, 65 E. South Water Street, Chicago, Ill.
 Johnson Hunt Productions, 6509 De Longpre Avenue, Hollywood, Calif.
 Young America Films, Inc. (Filmstrips), 18 E. 41 Street, New York 17, N. Y.

Playing Activities

BOOKS PERTAINING TO MELODY AND HARMONY INSTRUMENTS

Buchtel, Forrest, *Melody Fun for Singing and Playing with the Tonette*. Park Ridge, Ill.: Neil A. Kjos Music Company.
 Coleman, Satis N., *Bells, Their History, Legends, Making and Uses*. Chicago: Rand McNally Company, 1948.
 Coleman, Satis N., *The Book of Bells*. New York: John Day Company, 1938.
 Coleman, Satis N., *Creative Music Series*. New York: John Day Company, 1930.
 Diller, Angela, and Kate Stearns Page, *How to Teach the Rhythm Band*. New York: G. Schirmer, Inc., 1930.
 Dubois, Charlotte, *Songs to Play*. Boston: C. C. Birchard Company.
 Eckstein, Maxwell, *The Eckstein Piano Courses*. New York: Carl Fischer, Inc.
 Frisch, Fay T., *Play-Way to Music* (piano series). New York: Hermitage Music Publications, Inc.
 Fox, Lillian Mohr, *Autoharp Accompaniments to Old Favorite Songs*. Boston: C. C. Birchard Company, 1947.
 Pace, Robert L., *Piano for Classroom Music*. Englewood Cliffs, N. J.: Prentice-Hall, Inc.
 Perham, Beatrice (Beatrice Krone), *Music in the New School*. Park Ridge, Ill.: Neil A. Kjos Music Company, 1937 and 1950.
 Rhea, Raymond, *We Play and We Sing*. New York: Bourne, Inc.
 Shepard, Robert, *Harmonizing, How to Play Simple Accompaniments to Melodies at the Keyboard*. Chicago: Clayton F. Summy.
 Slind, Lloyd H., *Melody, Rhythm, and Harmony for the Elementary Grades*. New York: Mills Music, Inc.
 Snyder, Alice M., *Sing and Strum*. New York: Mills Music, Inc., 1957.
 Votaw, Lyravine, Ruth Diederach, and Cora Mannheimer, *The Rhythm Band Series*. Chicago: Lyons Band Instrument Company.

SOURCES OF FILMS PERTAINING TO THE PLAYING OF INSTRUMENTS

Handbook on 16 mm. Films in Music Education. 1201 Sixteenth Street, N.W., Washington 6, D. C.: The Music Educator's National Conference. (Edited by Lilla Belle Pitts.)

Johnson Hunt Productions, 6509 De Longpre Avenue, Hollywood, Calif.

Rhythmic Activities

Andrews, Gladys, *Creative Rhythmic Movement for Children*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1954.

Briggs, Dorothy Bell, *Kindergarten Books; Games, Rhythms and Songs*. Philadelphia: Oliver Ditson Company, 1941.

Coleman, Satis N., *Dancing Time*. New York: John Day Company, 1952.

Crowninshield, Ethel, *New Songs and Games (1941). The Sing and Play Book (1938)*. Boston: Boston Music Company.

Dykema, Peter, *Twice 55 Games with Music*. Boston: C. C. Birchard and Company.

Fielder, Grace, *The Rhythmic Program for Elementary Schools*. St. Louis: C. V. Mosby Company, 1952.

Geri, Frank H., *Illustrated Games and Rhythms for Children*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1955.

Hood, Marguerite V., and E. J. Schultz, *Learning Music Through Rhythms*. Boston: Ginn and Company, 1949.

Hughes, Dorothy, *Rhythmic Games and Dances; Basic Activities for Elementary Grades*. New York: American Book Company, 1942.

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 Square Dance Associates, 33 South Grove Street, Freeport, N. Y.
 Time Productions, Limited, 260 Deansgate, Manchester 3, England.
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Children's Record Guild and Young People's Records, The Greystone Corporation, 100 Sixth Avenue, New York 13, N. Y.

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Teaching Art

"When I paint a picture I think about something and then I put down my think."

IN THIS STATEMENT a small child has really told us more than how he goes about making a painting; he has, in effect, described art experience as part of the process of learning. In describing the process of teaching art, this chapter will show how a teacher can help children use art in several ways: (1) as a way of thinking, (2) as a way of exploring and expressing feelings, (3) as a way of solving problems with materials, (4) as a way of integrating and communicating ideas, and (5) as a way of making value judgments. This chapter will consider art, not as an additional subject in the curriculum, but as a source of values and abilities essential in a good elementary-school classroom program of learning.

When we examine each of these five aspects of a learner-centered approach to art we may find them easier to visualize in actual classroom practice if we first review examples of some previous conceptions of art teaching, and if we then look at newer ideas as they might work out in a specific classroom. What we shall "see" in the section on "Art in the Learner-Centered Classroom," although based upon experiences in schools all over the United States, may not be typical of what we would see in random visits to elementary schoolrooms, because many art programs lag behind in the development of improved art education practices.

Outdated Practices in Art Teaching

One of the first impressions that teacher-education students receive in an art education course is that art has changed considerably since they were in elementary school. Each student, however, may have a different change in mind. One may remember special art periods and even a special art teacher, with color wheels and rules about symmetry in compositions, autumn leaves to render in watercolor, and postage-stamp-sized versions of Masterpieces to be pasted into notebooks. Another, an older teacher perhaps, remembers the brown-backed copybooks, with drawings facing a blank page on which they were to be copied as accurately as possible. Many will remember coloring-in endless hectographed picture outlines and cutting out silhouettes of Washington and Lincoln from patterns the teacher carefully saved from one February to the next, with paper chains and a plaster handprint for Christmas. Some may recall using art materials only in social studies projects: maps, notebook covers, and endless stacks of 9" x 12" Manila paper for illustrations. Certainly a few remember art as the icing on the week's cake when the class had behaved well until Friday afternoon, or a "draw whatever you want to" period while the teacher marked the arithmetic tests. There's always someone who still remembers the time he was ridiculed for drawing a robin "wrong" or not coloring a turkey "right."

A look at some issues of magazines for classroom teachers published as recently as five years ago, will probably bring back memories of one's own elementary art experiences. Comparing these with a few issues of a current art education magazine like *School Arts* or *Arts and Activities*, intended both for art teachers and for classroom teachers, will reveal a New Look in art education—a new spirit. Even within a few years much progress has been made in putting creative art education philosophy into practice.

The change is more complex than the mere insertion of new activities into the syllabus . . . or doing things that "look like modern art." It will take this entire chapter, in fact, merely to point the way toward an up-to-date program. Meanwhile, outdated practices persist in many classrooms. And there is a less obvious, but probably even more prevalent hangover from the old art education which

hampers progress—the teacher-centered approach to art. A description of an elementary classroom in which this approach prevails will indicate many ways in which the teacher dominates the art program rather than letting children share in the thinking and learning.

The pictures on the bulletin board have been neatly mounted by the teacher and chosen as being suitable for children. The teacher's plants line the window sills. The work-counter surface is being used for a carefully arranged display of library books. Sepia reproductions of famous paintings are pinned up in a row over one blackboard. Over the other are those worksheet pictures which have been most neatly colored-in and the few crayon drawings that had correct enough proportions to be chosen for display. This teacher gives an art lesson every Friday at half past two, because by then, she feels, the children are too restless to do any real learning. She chooses a lesson from a teachers' magazine, perhaps, or repeats one that she taught successfully the year before. Each year she orders the materials which she finds easiest to manage. The children work only on two-dimensional desk-size assignments, and they remain quietly at their seats during the art lesson. The teacher chooses a pupil from each row to pass out the materials needed, and gives directions for completing the lesson correctly in the allotted time. If a pupil spoils his piece of paper he raises his hand to ask for another. The slower workers have to be hurried or helped so that they can complete their product in time to take it home at three o'clock, at which time the teacher must hurry to the cafeteria, where a committee of teachers is working on scenery and costumes for the school operetta.

The teacher whose art program is overdirected may be conscientious and hard working. In many cases, undesirable practices arise when teachers try to find ways of dealing with problems of time, space, children with limited art experience, parental criticism, and a need to produce tangible results. In finding out how to develop an up-to-date art program, our solutions of these common difficulties must encourage genuine learning by children rather than merely increase the teacher's efficiency of operation.

Art in the Learner-Centered Classroom

Perhaps what sums up the complex changes in the teaching of art is the focus on the individual child as a learner. With emphasis on *individuality*, children are not lumped together in an art period

to be taught principles of art and to practice techniques. Instead, they learn to think and choose for themselves and to express their feelings and ideas in their own ways, in the ways they find most natural at their own stage of development. Focus on the child as *learner* means that art in the school provides important learning opportunities for all rather than being a relaxation from learning, a manual activity for those not academically successful, or a means of discovering and training a few future artists.

What does the learner centered approach look like when it goes on in a classroom? Let us visit an intermediate grade classroom in which we can see many learner-centered principles in practice. (We should realize that in the earlier grades and in classrooms where this approach has only recently been adopted, the scope of activities may not be as wide, time allotments might be shorter, and there would be more emphasis on the beginning stages of readiness for increased learner-participation. However, the approach, the atmosphere, and the goals would be similar.)

The Room

First, we can learn a lot merely by looking at the room before the children arrive. There is a pleasant atmosphere, as though the people who use the room have put some thought into making it a cheerful place to be in. A large color reproduction which the children helped to choose is on one wall. A sturdy animal sculpture by a local craftsman is on the shelf near the door, where it can be patted affectionately on the way out to play. When space can be found for it, there is a "Please Touch" table or a "Just Look" shelf, with items brought in and arranged by the children. There are some cupboard curtains appliquéd by the children.

One can see that the room is really being used. The scenery committee's materials are stacked on the chalkledge with a length of wrapping paper tacked above to paint on. A puppet, a wire sculpture, and some drying clay pieces stand on the window sill awaiting completion. Tucked away under desk lids are small belt looms and some picture diaries and pieces of whittling wood or paraffin carvings awaiting spare moments for further work. In some orange crates in one corner there is a wonderful collection of scrap materials which everyone has helped to collect. In the same corner there is a special section of the bulletin board reserved for pupils' notes about art work. One note says, in hurried manuscript printing: LOOK. I MADE

HUNDREDS OF BROWN PAINT Kenneth. Kenneth isn't yet enthusiastic about painting pictures. For the present, he contributes by printing "formulas" under each of his color samples and takes care of paint for the scenery committee. Also attached to the bulletin board is a clipping from a magazine, about making dolls from scrap materials. A brush hardened by dried paint hangs by a string beneath a glaring sign: **THIS IS WHAT HAPPENS WHEN YOU LEAVE BRUSHES IN PAINT JARS.** SIGNED, The Storekeeping Committee.

Much of the children's completed art work can be seen around the classroom and in the hallway. The emphasis is on a sharing of results, rather than on competitive display. Many materials, both two-dimensional and three-dimensional, have been used. It is important to note that there is also well-rounded variety in the sources of ideas for art work; common learnings and classroom activities have been interesting enough to inspire children to use them as subjects for art work, and there is, in addition, a great deal of work based on the personal experiences of individual children. Important, too, is the fact that each child selected one of his own works to contribute to the display.

Time For Art

We are looking forward to seeing the class at work this afternoon because we have been told that this is Workshop Afternoon. Before looking at the Workshop in action we will need to know how this arrangement—which is only one of many possible setups—has developed in this class. In trying to follow the school syllabus, the teacher was able to schedule only two forty-five-minute periods for construction projects connected with common learnings, for individual spare-time projects and "hobbies," and for art. The children asked that this be combined into a whole afternoon, straight through recess, so they could get more done. The teacher recalled what she had read about length of interest span at this age, but figured that it would depend on what interests are being spanned. So they tried it, and they like it this way. A few of the less mature members of the group do get restless after the middle of the afternoon. Sometimes they get a hall pass and visit the school cafeteria to collect cans and boxes for the scrap-materials corner. Since some of the same children need extra help in reading, the teacher sometimes finds time during the afternoon to give them individualized work in reading, thus further varying their activities.

This teacher also told us how she learned that it pays to consult children about management of time. Last year's class declared they

wanted to make marionettes, even though the books said that puppets are better at this age, and even though the teacher had pointed out that their short work periods would mean stretching the project out for at least two months. "But we'll stay interested. We want to do it." And they did. But whenever Mickey rang the clean-up time bell, they all protested—fifteen minutes to clean up paint and tools and sewing and scenery and theater box! "If we could clean up in five minutes couldn't we work ten minutes longer every time?" Yes, they could. They did. And the teacher glowed remembering that children improved cleanup so they could work longer!

Learning how to have many different things going on in the room at one time isn't easy, and the teacher has told us that several times during previous months all work had to be halted, with the whole class returning to their seats to do some better planning.

Planning and Managing

Here come the children! Kenneth arrives first, and starts setting out the paint and stirring it. Peggy and Elena, a faithful pair, come in from lunch early and start moving desks over to make space along the scenery wall. Then everyone comes trooping in.

Soon we are seeing the social growth that must take place gradually in a class. The scenery committee is bunched together, arguing, and some children are milling around, undecided about what to do. The teacher points out that they don't look ready to begin work and reminds them that this means they should be seated. She explains to them that while she is helping the scenery committee she won't be able to pay much attention to others in the class. Could most of them work quietly for a while on program covers for the play? While they worked they could each be thinking about what to do when the cover was finished.

To start organizing the making of covers, the teacher helps the class to list on the board some reminders about cover design. They list a few suggested ways to achieve legible lettering (not just "The One Correct Way") and suggestions from the class for appropriate symbols and placement on the page. Pointing out that this information can be used later for the posters for the play, and for notebook covers, too, she mentally checks off one "art lesson" suggested in the syllabus for this grade, and then joins the scenery committee.

Several boys groan about having to do covers. Asked what alternatives they would suggest, two shrug and admit they had nothing in mind, but Sam wants to finish painting his boat before the weekend. The class approves of letting Sam finish his boat before working on a program cover, not feeling it unfair, because they are used to

granting privileges to those who make sensible plans. Someone reminds Sam that he'll have to stop work early enough, though, to clean up the enamel paint with turpentine, because other people will want to use the sink.

Later in the afternoon, the scenery committee is in action, and completed program covers are piling up on a designated shelf. Individual children are getting out materials for work projects they can do on their own. They have a background of skills to choose from, having learned many processes in the same way that cover design was introduced today. Also, a few children are teaching others some special skills. Other ways of working independently are suggested on the idea bulletin board, and the scrap material corner often inspires ideas. Some children need time to browse around and watch others before getting ideas, and as long as they don't bother anyone, this is accepted by the group.

In this class there are no special pupil assistants for art teaching because there had been a tendency to equate art ability with skill in copying or representational drawing. While the class is broadening its views of what art includes, help in art is exchanged informally. The Storekeeping Committee was chosen on the basis of efficiency in care of tools and materials. Last year, when each child wanted to make his whole marionette by himself, the girls volunteered to show the boys how to sew costumes in return for help with the woodwork involved in making the bodies.

Self-discipline and Self-direction

With the scenery committee hard at work, the teacher is now free to circulate around the classroom. She overhears three girls telling a fourth that she ought to stop and think before she cuts into a big piece of material. The children are helping each other, and the teacher is glad that she did not rush in to give this particular piece of advice first.

A new boy gets into a scuffle and drops a jar of paint. She shudders as he darts a look at the teacher, but a nearby child immediately tells him that "What you mess up, you have to clean up. That's all"—and then adds "Here, I'll help you. But be careful next time."

At one point the noise gets out of hand, and the scenery committee complain that they can't hear each other discuss. They ring the clean-up bell, the signal for immediate quiet. It is decided that the noise is of the unnecessary type, and everyone can lower his voice a whole lot. This is a reminder that groups frequently need. If the noise had been working noise, the committee might have agreed to adjourn to the hall for discussion. A committee doing a noisy type

of work can sometimes be scheduled to work in a basement activity room. Pleasant recorded music can be played, with casual talking discontinued for a while.

None of these children is heard whining for help in drawing. The teacher has told us, though, that at the beginning of the school year she often had to suggest ideas and help them find things they thought they could draw without help. And she had to work with individuals who made destructive criticisms of the work of others. Now when she is asked for suggestions, children frequently think them all over and then get an idea for a solution all their own. Today she overheard a girl offering a suggestion—not a criticism—to a boy who replied that he didn't want to do it that way in his picture but maybe she could do a picture of her own that way. The teacher realizes that the class may be nearly ready for some group evaluation sessions, since there is a growing ability to make constructive suggestions while there is also the strength to resist inappropriate ideas and to stand up for one's own concept. Similarly, the teacher feels freer to make suggestions now that she finds that her suggestions are not followed slavishly but are considered as just one person's opinion. She has been careful to recognize and label her own ideas as such and is equally interested in finding out the child's idea, feeling, opinion, because in a child's work it is the child's own honest view that is important.

In Workshop time these children are gaining valuable learnings by keeping in touch with what they really feel, finding out what they really want to do, and learning to discipline themselves while doing it.

Art as a Way of Thinking— The Creative Process

A biologist, a mathematician, a musician, a psychologist, a sculptor, a poet—all may use creative thinking, as can be seen in Brewster Ghiselin's anthology of *The Creative Process*.¹ Perhaps Rugg's description² of the creative act will serve us best: it is an original and integrated act. The individual has a thought he has never heard of before, he makes something in a way he has never seen anyone else

¹ Brewster Ghiselin (ed.), *The Creative Process: A Symposium*. Stanford, Calif.: University of California Press, 1954. Also in paperback Mentor edition.

² Harold Rugg and Ann Shumaker, *The Child Centered School*. Yonkers-on-Hudson, N. Y.: World Book Co., 1928, p. 145.

make it. He forms and puts together all the elements involved into a whole which the artist would say has "form."

Just as much as man needs to learn to adapt to his environment—to use the symbols and customs of his people and to obey the laws of nature and of human organization—so he also needs to create new aspects of his environment—to make symbols to express his own reactions and his own view of the world, to find new ways of harnessing nature to his understanding and use, and to suggest and construct new forms of human association. And so, naturally, we have found creativity in other chapters of this book; the visual arts have no monopoly on it. However, the creative approach is absolutely essential to the art program, and in the arts the creative process is perhaps easier to achieve because both the materials used and the goals sought can be quite flexible. The purpose of the activity is to develop and express one's own ideas, and there is no One Correct Answer that needs to be learned.

The arts are valued in the curriculum because they promote self-understanding, encourage self-reliance, demand the honesty of artistic integrity, and open up many possibilities for exploration. Creative thinking is becoming increasingly necessary in our time of rapid change, when mere repetition of the old ways no longer works. A noted anthropologist¹ tells us we will need "new inventions in which the child will be left free to integrate all through life—with the vividness and immediacy and concrete images so easily come by in childhood, so difficult to preserve into adulthood."

These values do not automatically come about merely from including some art in the curriculum. They emerge only when the art program is truly learner-centered. Some children seem to realize that art comes out of their thoughts and feelings and goes into the materials and onto the paper. They close their eyes and think and imagine. They remember an experience and how it seemed to them. Other children look at a piece of paper or pick up some other material and their minds go blank. Then they begin trying to find out what they are "supposed" to do, what the teacher or the other children will say is the right way. They try to copy this correct

¹ Margaret Mead, *The School in American Culture*. Cambridge, Mass.: Harvard University Press, 1955. p. 40.

formula or repeat a familiar one. Which approach the children in a classroom will take is usually related to the teaching methods they have experienced in the art area in particular, but is reinforced from other areas, too.

A child cannot think for himself and express experience in art form if his teacher does not understand child art and will not allow him to operate on his own level of development. For example, children have their own symbols for representing experience, as Lowenfeld's research has ably documented.⁴ Familiarity with such symbols as "x-ray" pictures and "fold-over" representations, and with the general developmental stages in art, will increase a teacher's understanding. But not all children follow the general stages in orderly sequence. And some children invent symbols not explained in any textbook. The teacher must therefore learn about child art on the job and can do so by relaxing and enjoying children's art work with them, by letting them tell about it, by becoming sensitive to how they feel about it. The teacher will not have to worry about teaching them a "Right Way," because as long as they have ideas and are able to express them they are learning to think.

Adults, especially the artists, have learned to value children's art because children seem able to achieve creative forms spontaneously which they would, later in life, have to work hard to produce with adult techniques. If the teacher does not stress technique, the child can spend his thought on the ideas he is putting into his work, asking for suggestions about technique only when he needs help in portraying his idea or when he runs into problems with his materials. Gregg, who has written a book showing a relaxed and happy teacher in action,⁵ sums up this attitude in a number of his statements: "Why shouldn't mama be larger than a tree, she's better." "The sky is overhead, and that's all right. Don't argue. The ground is down below. Don't argue." "If we can keep their third grade attitudes [of confidence in their work], they will learn the eighth grade

⁴ Viktor Lowenfeld, *Your Child and His Art*. New York, N. Y.: The Macmillan Company, 1954; *Creative and Mental Growth*. New York, N. Y.: The Macmillan Company, 1947, 1952, 1957.

⁵ Harold Gregg, *Art for the Schools of America* (ed. 2). Scranton, Pa.: International Textbook Co., 1947, pp. 28, 32, 115.

techniques [in due time]." Meanwhile, he has fun at lunchtime in his rural school, challenging the children to find out what shapes they can bite out of their sandwiches!

Considering how pleasant it can be to allow children to think creatively, it might seem surprising that adults so often discourage this thinking and force—or "persuade"—children to conform to some commercial formula, to lean on someone else's thinking. Children are given other people's drawings to color in, other people's patterns to trace, "correct" proportions and perspective to copy, and "The Way" to draw a cat (with two circles and three lines and no thought—no thinking about real cats doing different things, about special cats, about one's own cat). Children are dragged to windows to see how the sky should be brought down on the paper when the children feel that it is more logical to have empty space for the air between the sky and the ground. If they obey and fill in the sky looking as if it is falling down to the ground, they have given up their honest opinion about things as they *are* and are drawing what to them is a lie. In the primary grades the mere *appearance* of things is often not as important to a child as what he *knows* about them.

What are the obstacles, then, which must be overcome in order to have an art program that promotes creative thinking? Some of them are in the mind of the teacher. The teacher may be afraid to give too much freedom, not realizing that in this area it is freedom to think one's own thoughts that is involved—not freedom to run wild, not a flouting of routines for safety and clean-up. The teacher may want to prevent what she calls "mistakes," by doing the thinking for the children or directing them step by step. But some so-called mistakes are merely differences in points of view. Furthermore, children can learn from real mistakes, if they are not scolded for errors. They can learn how to fix up mistakes. If the whole paper is ruined, they can start over on another piece. But if a child's confidence is ruined, by learning to depend on someone else to do his thinking for him, *the child* is not easy to fix up, and he cannot be thrown away and replaced by a freshly creative child.

Every day, teachers can see evidence that confidence and creativity have been spoiled by directive methods, and the harder teachers

work to undo the harm, the more they learn to oppose such methods.

Two other misconceptions are obstacles to a creative program. One is the idea that artistic ability is skill in making pictures that look as much as possible like pictures taken with a camera. Actually, representational drawing skill forms only a small part of the adult artist's ability, and many people with this skill have no artistic sensitivity at all. The artist is a person who is especially imaginative, sensitive, and inventive, and who is able to organize and integrate and enjoy. And these are the qualities which art education can encourage in the lives of everyone. To make representational skill the goal is not only irrelevant as far as art is concerned, but also stresses an objective the children (and probably the teacher) cannot achieve.

The other misconception is that the art program is to be judged by the products that come from it, by the *things*, rather than by the *learnings* of the children, that result. The "best" pictures are displayed, work from one class is compared with that on display from another class, contests are entered, child labor is exploited in the mass production of decorations, and huge sums are spent on kits of ready-made craft products and molds. Children learn to copy pictures and are gradually convinced that these "look better" than the ones they do by themselves. Tracings and patterns are used as a short cut to a result, even though this bypasses all learning (unless you count learning to be dishonest, learning to take the lazy way).

These products sometimes impress administrators or parents who need re-education in this area. It is not hard to fool the public in art, because the misconception that art is a camera picture or a commercial-looking product is still widespread. The public is becoming better informed about child art, however, and some day they will be no more taken in by these tricks than they would be by a kindergarten teacher claiming that her children are learning algebra because she has them trace pages of formulas and algebraic symbols. Meanwhile, teachers can lessen these difficulties by helping children learn how to explain their work to adults, by enlisting parent co-operation in accepting and displaying their children's work at home, by inviting the administrator in to see the *process* of creative art work in action, and by teaching children (especially in the hyper-

critical upper grades) how to appreciate each other's honest original work.

Children are interested in the product; they work hard to make it turn out the way they want it to. They should also be interested in the process of making it. They should not be too concerned that the product turn out the way the teacher wants it. The teacher should be primarily interested in the thinking and attitudes involved in the process.

What are some signs that an art program is developing creativity in children? As the school year progresses, children will be increasingly able to develop ideas of their own for their art work. Fewer children will say "I can't" or "Do it for me," and more will be saying, "Oh, I know what *I* want to do!" The art work will show increasing variety, liveliness, and personal slant. Solutions to problems of classroom organization will be developed by the children. Individual solutions will be found to problems of handling tools and materials and using symbols and ideas. Children will begin initiating ideas for class art projects instead of asking, "What are we going to do this time?" Art work will not result only from scheduled art lessons, because children will consider art work as something they want to do on their own time in school and at home. Drawings that children have made because they *wanted* to will begin appearing. There will be evidences that they are making things to meet specific needs at home, and that they use creative activities in managing some of their own leisure time rather than relying exclusively on adult organized recreation and television. As children become sure that they will not be ridiculed or criticized, they will show enthusiasm for art activities, and greater concentration and persistence while they work.

Research has shown* that people remember how they felt during art activities, and the resulting attitudes, longer than they remember specific art information that they received. To evaluate the creative thinking process, try observing the child at work rather than the piece of work itself.

* Rita Newton, "Elementary School Art Experiences Remembered by Students of Elementary Education," *Seventh Yearbook*, Kutztown, Pa.: National Art Education Association, 1956, pp. 18-27.

THAT PEOPLE-DRAWING PROBLEM

An Example of Problem-Solving by Teacher and Pupils

Children do not always begin thinking for themselves immediately, just because they are permitted to do so. Teachers can often see evidence that their pupils have been confused and embarrassed by previous experiences, especially in the area of drawing. There is a temptation to meet this difficulty at first with patterns and demonstrations of "easy ways" to copy. Experience has shown that this makes the problem practically permanent. Let's see how a teacher can plan to help children solve a drawing problem, such as: "I can't draw people." Here are some solutions that teachers have suggested:

In the youngest grades, children are usually more confident than they are later. The teacher may plan opportunities for them to do lots of drawing and paintings with people in them in order to build up a good background of confidence for when they enter the middle grades.

Action games are helpful: "I am pretending that I am ———ing. Guess what I am doing." Following the game, each child can draw or paint his action.

Specific topics can be used: "Helping at Home," "Things that People Do to Me that I Don't Like."

Topics like "Brushing My Teeth" can be used to bring out greater awareness of detail.⁷

Awareness of detail is developed in another game, successful with many children of seven or eight years and older. Taking turns around the class, each person tries to name a different thing that might be found on a person's head. Suggestions range from ribbons and wrinkles to dimples and dandruff. Children can close their eyes and feel their faces and heads. Drawing, painting, or modeling a self-portrait or an imaginary person avoids the pressure which might be felt if they try to portray another person in the room and feel compelled to achieve photographic likeness.

Cartoons and caricatures are popular, especially in the upper grades.

Discussion of "What details might show us that a person is a mailman, a rancher, a waitress, a dancer, a grouch, or an athlete?" can be followed by drawing people whose faces and bodies and clothes tell about them. Children may be amazed to hear that "The Pilgrims were real people. There were Pilgrim babies and Pilgrim children, and they had ears and freckles and fingernails just as much as we have." Choosing a Pilgrim and thinking about him as

⁷ For additional suggestions of this type, see Lowenfeld, *Creative and Mental Growth*, op. cit.

a real person while drawing all about him can increase awareness of historical reality while giving practice in drawing people.

Skilful questioning helps when an individual asks for help with a difficulty. "When you stand up and pretend you are catching the ball, where are your feet? How high is your hand? Are you leaning?" Both kinesthetic and visual clues can be used if the child takes the "pose" to get the feel of it, and the teacher or another child does, too, to show how it looks. Even in the upper grades the stress should be on the relation of parts, how they work, how they feel, and not on mathematically correct proportions.

If the teacher is a good sport about the results, it's fun to let the class draw pictures of the teacher. This might even be saved for some day of disturbance when the teacher would like the old-fashioned security of being able to keep an eye on everyone in the room, from the vantage-point of a modeling perch! At the same time, it can give a permissive outlet for the tensions children usually feel after a period of upset discipline. It is interesting to note that there are children who feel hesitant about showing in their drawing how much they like a teacher, as well as some who hesitate to portray dislike. All drawings should be good-naturedly accepted.

Drawing from a posed model is helpful in the older grades, but only if the children realize that they need not draw the model with visual accuracy. They may choose to use the model merely as an inspiration for costume or action in a picture.

Consideration of drawing people might precede a mural or illustration project in which many human figures will be needed. If it is to be about pioneers, for example, a time might be planned in which each child would draw his own pioneer, after some of the kinds of discussion and stimulation suggested above. In this type of group lesson the teacher would be free to talk individually with children who wanted help and could note which children might have a real emotional block about drawing people. The suggestions below concern this latter group.

A fifth-grade teacher once commented about a shy little bookworm in her class: "When Kirk finally finds some people in his life, then he'll start drawing people in his pictures." If a child refuses to draw people, he should be encouraged to draw a place or event or a thing that means a lot to him, so that he will still feel involved in his pictures and not retreat from them along with the other people!

In a group project, such as a mural, when each person is choosing the part he wants to work on, let the hesitant child have a chance to choose while a part is still available that he feels able to do—fences, trees, the river, etc.

If for some reason a time comes when it is important for everyone in the class to be drawing a person, the teacher can suggest (to the whole group, or when talking with individuals who want help) some ideas which allow more leeway and still turn out looking all right to the children: clowns, scarecrows, cartoons, men from Mars, Me Inside My Halloween Costume.

Remember that a child may start drawing people only after many months of feeling like a more worthwhile person, and that the teacher who helped him gain this confidence can then feel a real glow of satisfaction.

A teacher education class which was working on Discussion Questions 1 and 2 (p. 549) included the following suggestions in their Reminders for Art Teaching," based on the results of their own school experiences.

Don't force everyone to draw. There are other things to do in art. Different activities at several tables will allow a child to choose.

Don't force a child to do something like fingerpainting if he has a strong emotional reaction to it. Help him find a way to help the class while they fingerpaint and he may gradually overcome his reaction.

Give children "food for thought"—don't spoon feed them.

Ask good questions so that the child gets a clearer idea of what he is trying to do and can make his own decisions.

Activities that are too directed are boring.

Find out what they have done before. It's a waste of time to do the same thing every Halloween for eight years of elementary school.

Give suggestions in such a way that the child can feel comfortable about turning them down if he wants to.

If children are given dittoed pictures to color in the reading-readiness stage, it is likely that they will continue this dependency in later grades.

Don't retouch children's pictures. It either destroys their confidence, or they feel you have "messed it up."

Giving "easy ways" to draw things gets children into a rut.

Children who gain confidence in one chosen medium can more easily be encouraged to try new things.

Be as tactful when talking to a child as you would be to your adult friends.

It helps to have good materials to use. Try using the scissors the children have to use. You may be amazed at how well they are doing under great handicaps!

Art work should be exhibited for enjoyment, not as a contest.

Try to avoid giving grades for art work.

- Think whether the projects you plan constantly demand realistic representation in order to seem successful to the children.
- Christmas gifts that use the imagination are more fun than something that is mass-produced by everyone.
- Children who do not enjoy drawing often like working in three dimensions. Craft projects are remembered long and favorably.
- Flexible time limits help. Plan ahead for work to turn to as art work is finished. Plan together for cleanup facilities and "traffic problems," and for places where things can be put to dry or kept to work on later.
- Just because one child does well in art don't assign all special art activities to him. Children shouldn't be relegated to filling in parts of a mural that others have drawn.
- Children overhear comments made to visitors. When you laugh over a child's drawing, don't assume that children can tell the difference between enjoyment and ridicule.

Art as a Way of Exploring and Expressing Feelings—Emotional Health

Teachers sometimes find that they enjoy encouraging children to express their own *thoughts*, but that when children start acknowledging their own *feelings* and releasing their emotions the situation is more difficult. Bright ideas and imaginative concepts are not hard to enjoy, but what about anger and fear and dirtiness? Can they be allowed to become part of the art program?

As far as discipline is concerned, people whose daily work is the exploration of children's emotions tell us⁸ that the expression of feelings in the classroom need not result in bedlam. Children can be permitted to talk and paint about things—for example, aggressive and hostile actions—which they must be forbidden actually to do in the classroom. Furthermore, the process of working with an art medium can itself reduce the need to channel energy into disruptive action.

⁸ Virginia Axline, *Play Therapy: The Inner Dynamics of Childhood* (Boston, Mass.: Houghton Mifflin, 1947), pp. 143-4 and 155.

Clark L. Moustakas, *The Teacher and the Child: Personal Interaction in the Classroom* (New York, N.Y.: McGraw-Hill Book Company, 1956), pp. 129, 162, and photo comment on 163. Examples both of how to maintain and of some chaos experienced with. Introduction empathize with teachers' difficulties.

Relatively undirected situations, into which the child can put a lot of himself—making up stories, pictures, and puppet plays—can provide expression of feelings without hurting anyone or anything. These activities often turn a feeling into something interesting and worthwhile. Some art materials seem made to order for learning the distinctions between acceptable and unacceptable outlets. Clay can be smashed—but not people. Carvings can be whittled—but not desk tops. Newspaper for papier-mâché can be torn to pieces—not books. Children must not mess with their food or play in the mud—but they can “goosh” around in the finger-paint. A puppet can be made to say things that it might be hard to say for real.

One group of needs that some teachers have difficulty finding outlets for includes the following: (1) a need for a rather rigid kind of security, (2) a mental weariness often mistaken for laziness, (3) overstimulated emotions that need soothing. We all have to learn to deal with those times when we feel like doing something easy and relaxing and even repetitive. We cannot be creating at top speed all the time. Children often seem to yearn for patterns and coloring books when they feel this way. Teachers who know that such devices increase dependency may feel that they should ignore this group of needs. However, there are some constructive ways to handle these needs: cutting the strips for papier-mâché, sorting crayons, cutting mats and frames for pictures, knitting, going ahead with weaving on a loom on which one has already figured out the design, making many prints from a linoleum block or a stencil that had been made on a previous occasion when one felt more creative.

A teacher who is accepting of children's art products can provide for a lot of “blowing off steam” without necessarily being aware of it. An everyday example (too often only the clinical case and the psychologically expert teacher are cited) would be Billy, whose fourth grade teacher took a dim view of his noisy, normal love of shooting cap pistols and playing spaceman. She might forbid such play, or grit her teeth and bear it. Either way, Billy would feel the disapproval, so it was probably just as well that toy guns were outlawed in the classroom. But when Billy's paintings of Outer Space put all his healthy vigor to bold and colorful use, the teacher could honestly—and spontaneously—beam her approval.

A further step would be to develop the ability to help children understand and use their own emotions. Gregg⁹ speaks of the "celebration of the emotions," meaning that people need a chance to take the rhythms and colors and excitement and happiness of life and make them into something which they can keep. There has been a tendency to talk about art "getting rid of tensions" and "letting the bad thoughts out." This can, and does, happen. In therapy, children tend to express the negative before they find room for more positive expressions.¹⁰ But too often art in this sense is thought of as mere messing around, an unconscious and irrational explosion of feeling, rather than as the marvelous learning opportunity it can be. Children can learn to know what they really need, admit to themselves or to others what they really feel, and then think through to constructive ways of dealing with the situation.

The second grade started acting up while their teacher was having a lengthy conference with an unexpected visitor. The teacher did not scold them and make them sit still with their hands folded. She did not imply that seven-year-olds should be ashamed of wanting to be active. Instead, she asked one boy to pass out drawing paper so everyone could make a picture of "What I would be doing if I didn't have to be sitting here waiting." Not only did it turn out to be the liveliest group of drawings they did all year, but more important, it helped the children to do something constructive with their energy, and to know that their teacher understood what they were feeling.

Modern life reveals the tragedy of many people who, given leisure and free choice, do not know what they really want and so succumb to passive watching of entertainment, or rigid overscheduling of their leisure time. A school art program that allows real choice can help children learn how to deal with this problem. In our example of the Workshop Afternoon the children were learning to consult their inside selves to see what they really felt like doing, at the same time that they were also learning what opportunities were available in the outside situation "I want to do something big

⁹ Gregg, *op. cit.*, p. 18.

¹⁰ Clark F. Moustakas, *Children in Play Therapy: A Key to Understanding Normal and Disturbed Emotions*. New York, N.Y.: McGraw-Hill Book Co., 1953, pp. 58, 19, 100, 202-21. See also Axline, *op. cit.*, pp. 15-153.

that will take a long time and I can use it when it's done." "I'm going to just knit today—my brain's tired." The teacher's knowledge of possible materials and activities helps in planning with these children.

When children learn to understand their own feelings they can also sometimes understand the teacher's feelings. A nine year old told his mother one evening, "We tried to do quiet things this afternoon. The teacher had an awful headache."

What About "Psychoanalyzing" Children's Art?

On the subject of psychological interpretation of children's art work there is considerable controversy. Books on psychological testing and on play therapy have led some classroom teachers to feel that they are expected to diagnose children's inner difficulties by examining their art work. It is interesting to note that art educators who have had the most training in psychology *are apt to be the least enthusiastic about having teachers interpret children's work*, are most emphatic about referral to trained workers, and are themselves *most cautious* in coming to any definite conclusions from looking at art products. They might sum up their advice on the subject this way:

Only a person who has had wide experience with children's art, child psychology, and specifically with projective testing, should attempt to use children's art work as a means of probing the deeper levels of personality.

Even on a more superficial level, observation of art work should not be considered a magic—or a scientific—way of finding out things which the teacher cannot observe in other aspects of children's behavior. For one thing, if a child is expressing a problem only in his art work, he may not be ready to handle it on a conscious level. Furthermore, sometimes the teacher is not ready to handle it. It may be something beyond the scope of the classroom and school. It may involve areas that are difficult or embarrassing for the teacher to deal with.

Conclusions should not be drawn from looking at one piece of art work, nor from looking at art work without observing the child and knowing the circumstances under which he worked.

It should be remembered that the teacher's general attitude toward a child may prevent the objectivity of professional psychological interpretation, and may distort what the teacher sees in the child's work.

Looking at a child's work can sometimes help the teacher to a

warmer feeling about the child, and a closer understanding. If the teacher is curious or doubtful about something unusual in a child's work, it may be helpful to confer with the school counselor, or someone with more experience with children's art work can often help the teacher to see the child's expression in a normal context.

One misuse of interpretation is illustrated by the case of the second grade teacher who walked around her classroom during an art lesson saying, "Don't use black. Maladjusted children use black and I'll have no maladjusted children in my room!" A more subtle example of an attempt to "cure measles by covering up the spots" is seen in the attempts of some adults to persuade children to draw lots of details in their pictures, having heard that this indicates intelligence. What they do not know is that, depending on other factors in the picture, detail might also indicate emotional problems of compulsivity, or even a certain kind of mental deficiency!

Now, after all these warnings, let us look at an example of how meanings in children's art work can be helpful to a teacher.

In one fourth-grade class there are three especially noisy, active boys. Each one seems to react to the school situation differently, even though their surface behavior is similar.

The teacher notices that Billy (see p. 530) expresses his general vigor in his paintings—it seems to be a natural part of him.

Larry, on the other hand, seems afraid to paint, only pencils-in timid little airplanes and houses along the edge of his paper, and says he does not like drawing anyway. Does he feel he can not do other schoolwork well either? His cramped attitude in art expression is so different from his other explosive, behavioral expressions that the teacher should try to determine whether his noise and activity are used at least in part as a cover-up for feelings of inadequacy.

Stewart is even more complicated. His work in reading is below that of the rest of the class, but his art work shows outstanding ingenuity and initiative that no one had noticed in him before. The teacher should try to discover whether he just needs more interesting reading materials to stimulate better reading, or whether he has this special ability only with concrete materials

Children's art work can indicate times when they feel upset. It can portray things they like or envy, their hopes, and their fears. It can reveal timidity, vitality, hostility—all the range of human feelings. It can help a teacher to realize fully what individual differences and individual uniqueness can mean, and to enjoy each child as a

special and different person—not better or worse, smarter or dumber—but just his own funny, exasperating, interesting, wonderful self.

This is acceptance. This is the food of emotional health.

Art as a Way of Solving Problems with Materials—Tools and Skills

Prospective teachers frequently take a laboratory art education course which gives them experience in working with materials and activities that are commonly a part of the school art program: painting, clay modeling, fingerpainting, drawing with chalk, using crayons in many ways, papier-mâché, potato prints, puppetry, wire sculpture, mobiles, and many others. In-service teachers may find further help in workshops given by local art personnel or by the representative of an art supply company. New materials and activity ideas appear in art-education magazines to which many schools and teachers subscribe. In many cases these sources are supplemented by the teacher's own interests and abilities; at home or in hobby groups many teachers enjoy sewing, woodworking, photography, flower arrangements, rug making, and amateur theatricals.

This section on tools and skills is not intended to provide instruction in specific art processes. We shall be concerned with finding out what children can learn from using a variety of tools and materials in the art program. These learnings can be summarized broadly under two heads: the ability to understand concrete things, and the ability to use the body and its skills with tangible, effective results.

The first has much in common with goals of science, consumer education, and industrial education in the elementary school. Describing "available occupations" for the schools, Dewey¹¹ in 1923 listed "work with paper, cardboard, wood, leather, cloth, yarns, clay and sand, and the metals, with and without tools." To these our expanding technology can add such things as cellophane tape, plastics, synthetic textiles, staplers, duplicating machines, slide projectors,

¹¹ John Dewey, *Democracy and Education* (New York, N. Y.: The Macmillan Company, 1923, p. 230.

and movie cameras. Even a power tool for woodworking is already in use in at least one third-grade classroom. From scrap material sources teachers and parents and children can add more materials; paper towel tubing, metal foil, paper bags, plastic berry boxes, springs, office supplies, and popsicle sticks: the list is endless.

Using a variety of materials in the classroom has many benefits:

Children see a clearer relationship between life in the school and life outside, between what *they* can use and make and what adults use and make, at a time when these two worlds are separated to an unfortunate degree.

Critical appraisal of the functions and advantages of various materials is a beginning in consumer education.

Knowledge of the qualities and limitations of materials involves aspects of art appreciation—the functional approach to design, and the criterion of appropriateness of material.

Exploring the possibilities of a material can be an interesting project in developing problem-solving ability.

Working with materials can teach discipline, orderliness, and self-control.

Although teachers, with good reason, avoid the kind of discipline which would involve shaming, threatening, or directing a child in regard to his feelings and ideas and style of expression, they find in the tools-and-materials aspect of art a natural, impersonal means of discipline. It is here that adaptation to the environment can justifiably take precedence over the expression of the inner environment. A saw will not work if you kick it, even if you are very angry; you have to learn to use it the way it is meant to be used. Wood has a grain, and if you work against it, it splits. When the lid of the glue jar is not replaced the glue dries up before the next time you want to use it. You cannot cut eight feet of scenery paper from a roll with only six and a half feet left on it. You can express how you feel about these situations, but they still present problems to be solved. You can invent a new way to use a tool or material but it must be tested in the real world of facts and laws of nature. This kind of disciplining has advantages over control by the authority of the teacher, because the materials are objective. The child learns to deal with facts and laws which he must abide by, realizing that they

do not discipline because of meanness, lack of sympathy, or a desire for power.

Part of discipline is the clean-up process. Pupils and teachers should plan and carry out procedures that will make cleaning up efficient and responsible. This involves learning to plan, learning to cooperate, and considerable factual learning as well. Children learn that water will not clean off enamel paint, that hot water debristles brushes, that it is better to brush dry clay off clothes than to grind wet clay in. Children will often meet very high standards for clean up in return for the chance to use exciting materials. Teachers should plan activities at a level that will consider their own amount of fussiness, the children's readiness for responsibility, and the level of room management achieved so far. For example, clay introduced during the first week of school frequently ends up on the ceiling!

The problem of waste presents another learning opportunity. There is an area of reason between the teacher who will not let children draw much because "it wears down the points on their crayons," and the child who thoughtlessly cuts a purse strap from the center of an expensive piece of leather. One sixth grade based an arithmetic unit on the pricing and ordering of school supplies. Another class posted samples of materials in the room labeled with prices so that pupils could differentiate between expendable materials and those that require careful planning.

The second head of our discussion on tools and skills—confidence and skill in using hands and brains to produce things—is becoming increasingly important because of the current revival of the do-it-yourself attitude in American life. Early American pioneers, who became known for their "Yankee ingenuity," whittled out mechanical washing machines from wood scraps, and saw rug-hooking possibilities in every scrap of cloth. But later Americans became increasingly tied to office desks and factory routine and lost many of the old craft skills. In the current re-emphasis on making things for themselves, many people have experienced an initial feeling of inadequacy—of being "all thumbs." For the younger generation, the school is helping to meet this problem through both fine- and industrial-art activities. Everyone, not just the future artist or craftsman, needs to develop confidence and common sense in working with concrete

things. These qualities do transfer from one material to another. An enjoyable art workshop background helped one girl care for household equipment more sensibly than did her next-door neighbor who had been forced to take notes about it in a home economics class. There is no substitute for experience in getting the "feel" of materials and how they work.

The fact that the growing do-it-yourself movement has been accompanied by an increase in home accidents with tools indicates that there is a place for safety education in the art program at school.

In valuing inventiveness and the experimental attitude, the art and science programs merge. Some activities could be considered both as an art and a science experience; for example, learning to balance the leverage to attain graceful motion patterns in a mobile, or taking a material such as metal foil and exploring its properties and what can be done with it. Bulletin boards can report the results of individual experiments (see p. 517), and if the teacher at first encourages these learnings the children soon take the initiative. The experimental approach can be used even with—especially with—kindergarteners. They love, for example, making collages and thinking of ways to attach things like fur and feathers to cardboard and cloth.

We have already indicated some solutions to several common problems in this area of art education:

Teachers who feel insufficiently prepared to work with many materials might find in the first paragraph of this section some routes to further learning. In addition, pupil assistants can help in teaching new skills.

Teachers who begin to despair of keeping up with the Joneses in the new materials being used in art education should realize that the important thing is not to use every new art material, but to develop in themselves and in children an awareness of the possibilities in the materials around them.

Lack of materials becomes less of a problem when scrap resources are used. Complete sets of tools are not needed if the workshop approach is used, since only one group of children at a time uses the tools for a special process.

Finding storage space may take the problem-solving abilities of the whole class plus the establishment of friendly relations with the custodian.

Time limitations can be eased in several ways: correlation (using art activities as part of science, safety, and social studies learning times, for example), individual permission to work on art projects in spare time, and extension into home time.

Many parents who object to time spent on the arts at school welcome something to keep the children busy at home. A weaving project can be started at school and finished at home. A film on making papier-mâché animals was shown in a small town school and over the weekend many children made animals at home on their own. Children like rehearsing their puppets at home. Some classes work out and duplicate a summer notebook of things to do during the vacation period.

Actually, parent approval of the art program is most likely to be gained by the values in this tools-and-skills area. They realize the importance of being handy around the house, able to clean up, careful about safety. And parents get intrigued into helping supply materials. But we need to find ways of planning ahead with parents, through the children. Teacher and pupils can write out notes or can duplicate information sheets which tell of art needs well ahead of time. If Susan waits until Monday morning to tell mother that her class is going to try making things out of spools today and that everyone has to bring spools, Mother may have to reel the thread off of every spool in her sewing box while the school bus approaches the corner. We cannot then expect Susan's mother to be enthusiastic about the materials approach to learning!

Art as a Way of Integrating and Communicating Ideas—Correlation and Curriculum Planning

When children feel confident of their ability to express ideas in some art form, they begin to think of using art expression in connection with other classroom learnings. Some individuals will be more interested than others in reporting their learnings through

visual media such as posters, dioramas, peep boxes, pictorial maps, and illustrated newspapers. Groups may work on murals, rolls of drawing to reel through the TV Box, puppet shows, and small-scale models.

Relating ideas and skills from art and from all areas of the classroom program can have many values:

It can help to unify experience so that school life is not cut up into half-hour subject segments, and is not completely cut off from activities outside the school.

Some children can express ideas better in an art form than they can in words.

The concrete forms of art can make ideas easier to understand. Visualization often clarifies. Vividness makes remembering easier.

Careful research is sometimes motivated by art projects. (When a fifth grade worked on a mural of the French and Indian War, two boys who had rarely opened their social studies books literally stayed up nights looking for errors in the factual background of the scenes which the class portrayed.)

The activity involved in art work can be an effective way of learning by doing.

The concreteness of the art product adds to the child's feeling of achievement in learning.

Art work can involve the emotions as well as the intellect in learning.

But correlation, if it is to have real learning value, requires both imagination and careful planning. The teacher must be alive to the possibilities in following ideas out in all directions across artificial subject matter boundaries and must be able to create experiences which communicate ideas vividly.¹²

Careful planning can avoid the many pitfalls of correlation. It is this aspect of teaching which offers perhaps the greatest challenge to the teacher's ability to think critically. It is this questioning evaluation of the program which this section on correlation will stress.

Overcorrelation is a frequent problem. Some misinterpretations

¹² For help in developing ideas for correlation, see Gregg, *op. cit.*, and Marion Nesbitt, *Public School for Tomorrow*. New York, N. Y.: Harper & Brothers, 1953.

of the core program, for example, have resulted in all art work being confined to illustrating social studies, reading, or science topics. This may leave the child with no chance for truly personal expression. In the long run this defeats correlation itself, as can be seen in the comment of a college girl who pointed out how beautifully each of her courses of that semester correlated with each other but concluded, "None of them correlate with *me*!" Sometimes correlation is defined as the relating of subject matter areas, while the term "integration" is reserved for deeper relationships within the individual learner.

If art is to be rescued from being merely a servant of other areas of the curriculum, correlation must be considered as a two-way street. Art learnings should occur while working on other subject matter. Children should have a chance to see a variety of works of art in connection with each country and era studied. The art of community planning should be studied in connection with community studies. Artists and craftsmen can be considered in the study of occupations.

The values from one subject area should not conflict with those of another. The pictures used to illustrate reading materials, for example, should not violate standards which have been set up for art values in art appreciation learnings. Children should not be asked to use patterns for making pictures of spinning wheels in social studies, and then be expected to be creative in their paintings.

If illustrations are not to be merely a waste of time copying pictures—or memories of pictures—children must have a chance to steep themselves in the subject and thus soak up background material for their own pictures. Their pictures may then give some indication of the level of their understanding of the subject. It is in the emotional rather than the factual aspects of learnings that art has the greatest role to play. A careful look at a picture or a model of the "Mayflower" provides children with enough *facts* about the ship; not much would be gained by having each child draw the ship. But painting how they think the Pilgrims felt on the trip, or when they landed, or while living through the first winter, could contribute much to *understanding*.

Countless opportunities for relating art work to other learnings


are lost because teachers do not see the possibilities. Think of how many unrelated lessons are taught on cutting and printing a linoleum block—a long process and hardly worthwhile unless a maximum of learning is derived from it. Are any implications beyond the process itself even mentioned? Do explorations of other printing media follow or precede it? Do the children realize its relation to commercial printing processes? Do they use the blocks to print textiles or advertisements, or to illustrate a class newspaper? Are they helped to realize the various functions of a multi-print process and how it differs from single-product processes? Is there someone who asks about the printing done by the school hectograph and perhaps gets a chance (a few Ditto master carbons) to explore it as an art medium? Is the children's success in using linoleum tools used to gauge readiness for other tool processes? Do the children get a chance to see print work by a variety of artists? Once an art teacher brought plates and page proof from a printing firm to a fifth grade. There was a lively discussion, for even in this age of mass media most of the children had not ever thought about how newspapers and magazines come into being. The classroom teacher said to the art teacher as she left, "I could have shown them better samples. My husband is a printer. But no one ever said we were supposed to teach about that in the fifth grade!"

In the overcrowded school schedule we cannot afford projects that take more time than they are worth in learning value, so sometimes it is better to eliminate an activity, instead of trying to develop it for maximum learning. In studying the American pioneers, months of time and most of the classroom space could be spent building a covered wagon and constructing full-scale papier-mâché oxen. Educationally, it might merely repeat processes already familiar to the children and teach about mere appearances of objects with which the children were already familiar through television and movies. Meanwhile, valuable time has been lost in the repetitive manual activity of pasting papier-mâché strips—time which could have been spent in more varied, or deeper, experiences.¹³

¹³ See *Art Education*, Research Issue, "Evaluation of Children's Growth Through Art Experiences" (Vol. 6, May 1953), pp. 9-10, and Marion Nesbitt, *op. cit.*, p. 129. In light of this material, ask yourself: "Why should today's children learn about the pioneers? What should they learn? How can an activity help them learn?"

A further question arises when so-called "correlated art projects" reinforce, with vivid imagery, stereotyped impressions rather than promoting understanding. Many a Mexican Unit produces craft objects decorated with the insulting figure of the "lazy Mexican" sleeping under a cactus. The emphasis may be so exclusively on the picturesque aspects of fiestas and costumes that the children never realize that there may be Mexicans in their own community—Mexicans who don't wear ponchos and mantillas. Worse yet, they may mistreat "real life" Mexicans while learning to consider the school's quaint teachings as further evidence that the curriculum, although it may be fun, is sort of like a fairy tale.¹⁴

Even on a superficial level, "correlation" projects can teach misinformation. In one school, children take weeks for each child to complete a replica of a Viking ship, and even then someone emerges with the idea that Vikings decorated ships with milk bottle tops, which the teacher has thought of as a representation of shields!

This brings up a further problem—levels of accuracy in art when it is used to visualize objects. Conical paper cups decorated with crayons to represent tepees may look cute along the window sill during the Indian unit, but they teach nothing about how tepees were made, what materials they were made of, how big they were, and they even give a rather distorted idea of what tepees looked like. Drawing them can be even worse, especially if children are given this symbol  to use, and they get the idea that tepees were pie-shaped slabs with a notch bitten out! On the other hand, the paper cups could be used as a handy resource by children doing a table-top demonstration of how Indians arranged their tepees in a camp. After children have discussed and understood the structure of tepees, drawings of them would be appropriate in murals of Indian life.

Understanding the *process* is sometimes more important than accuracy of the *product*. During a review discussion of their trip to the bakery, a class of second-graders found it helpful (for visualizing as well as for reducing fidgets) to have each child follow the discussion with a lump of plasticine in his hands, putting the clay

¹⁴ See Peggy Brogan and L. K. Fox, *Helping Children Learn*. Yonkers-on-Hudson, N. Y.: World Book Co., 1955. pp. 61, 244, 246-248.

through each stage that the bread dough went through in the bakery, even to giving it a wrapper made from a piece of spelling paper. In this case it was the process that needed review; they were not confused about what bread and bread wrappers really look like. Furthermore, they did not need to make realistic models of bread loaves for an exhibit of unit work. In some classes valuable learning time is wasted in making things for show.

When working within the time allotment limitations of the curriculum, correlation helps classes to "have their cake and eat it, too." Suppose there is a state law passed which requires that a half-hour per week be spent teaching safety, and there seems to be less time than ever for art. Safety posters can be made, and models of streets and cars for traffic demonstrations. Better still, since we learn safety better by learning to act safely than by illustrating safety slogans, the half-hour could frequently be used for a tools-and-skills type of art activity, with plans for, and evaluation of, the safety measures practiced.

Correlation sometimes gets into a rut. The seasons and holidays, for example, can eventually stultify the imagination. Then is the time for some new thinking. Must September mean only pictures of autumn leaves? Art has much to contribute to the first month of school in beginning to make the classroom a pleasant place. Art projects are good for getting acquainted, too. Must turkeys or Pilgrims be drawn for Thanksgiving? There might be more meaning in writing illustrated thank-you notes to people we are thankful for.

Correlation at its best helps each child to see art as a part of daily living.

Art as a Way of Making Value Judgments— Art Appreciation

The term "art appreciation" arouses so many unpleasant memories and hypocritical attitudes that it may be a mistake to use it in the title of this section. "Understanding and Enjoying Art" is a little unwieldy, but much more accurate in meaning. Both understanding and enjoyment are necessary for appreciation. Those who

say, "I don't know anything about art but I know what I like" haven't had enough opportunity for the learning which could enrich their likings. On the other hand, those who know many facts about art and what is supposed to be great in art often take their "culture" with a sense of duty and get no honest enjoyment from art.

Art appreciation in the modern elementary school has gone beyond the scrapbooks of tiny reproductions of famous paintings, accompanied by name and dates of the artist; the framed sepia prints of the Colosseum hung safely beyond reach (and out of sight); and the copying of the details of the classic Greek orders. These are being replaced by large colorful prints chosen by committees of children and placed at eye level in classrooms and hallways; displays of natural objects, crafts, and works of art, pointing out their visual values; loan exhibits and slide talks, trips to art centers, and visits from local artists and craftsmen; and the use of local resources in libraries, parks, stores, museums, and on television.

It has been realized that little learning results when children are shepherded through a museum to use up the afternoon after a trip through a factory. Visits must be planned so that children know what they are looking for and what use they can make of this on their return to the classroom.

Good taste implies that sensitivity and selectivity are applied to all we see around us. Films shown in school can be evaluated for their qualities as an art form. Illustrations in school books can be compared. The design of new public buildings, of automobiles, of fabric for classroom curtains, and of the current exhibit in the hallway showcase are all legitimate concerns of art judgment.

The art works studied or enjoyed in elementary school have often been limited to the Renaissance and neoclassical periods, but we are now opening up for children the doors to rich treasures of primitive, Oriental, and modern art. Two misconceptions tend to narrow the scope of art experiences in the elementary school. One is the idea of art as Beauty—sunsets, flowers, well-dressed children. Beauty gets defined as superficial prettiness or cuteness. If this definition were applied to a movie magazine cover girl and Rembrandt's painting of "Old Woman Cutting Her Nails," the cover girl would

rate as greater art. A wider view is achieved by thinking of art and beauty in terms of reaching truth beneath the surface, of being interesting, or of having satisfying color, shapes, lines, texture, and organization.

The other narrowing influence is the tendency to consider children as too young for modern art. A teacher may reason, "If I can't understand it, how can those little children be ready for it?"

On this problem, research has many answers. One is that young children on their own tend to choose colorful modern pictures rather than older ones or the commercialized type.¹⁵ Another research¹⁶ indicates, among other things, that the longer children are under the influence of teachers the more they tend to choose traditional works. It is also known that as they near adolescence, children tend to prefer a more photographic realism, but at the same time to show interest in the experimental aspects of some modern work. A third study¹⁷ indicates that children's tastes may follow a developmental pattern. Younger children's taste in design tended to be personal and associational, then sensitive and imaginative, with the preadolescents becoming hypercritical and expressing generally negative reactions. Other studies¹⁸ link design preferences with personality differences.

Since contemporary art offers unprecedented variety, our contemporary children should have access to it and to the wide range which the whole history of world art offers to their individual needs and interests. Respect for the variety of each other's tastes can be developed if on the walls and in the books on the library table there is a real variety so that the children are not deprived of access to any of the facets of their art heritage by a kind of esthetic censorship. The teacher can relax and take this attitude: "Some of these are my favorites, and others are here because they'll probably be someone else's favorites. If we find any that I can't explain

¹⁵ Marion Johnson, "What Pictures Do Children Like?" *Vassar Alumnae Magazine*, March, 1949.

¹⁶ Elsie Katz, *Children's Preferences for Traditional and Modern Paintings*. New York: N. Y. Teachers College, Columbia University, 1944.

¹⁷ Presented by Jane Holland at the 1956 conference of the National Committee on Art Education.

¹⁸ For example, John E. French, "The Perils of Research," *Art Education*, 9:8-11 (May 1956).

to you or enjoy with you, we'll ask the class and see who can help us."

Time is less of a problem in this area than in any other. Pictures and objects around the room to enjoy do not take up any time on the daily schedule. An occasional five minutes of looking at a shell or feeling a rock is time well spent. There should be many esthetic experiences shared, as the year goes on, in the Telling period of language arts.

Materials for teaching about the fine arts are getting steadily more plentiful. On every newsstand are publications with beautiful full-page reproductions of paintings.¹⁹

Eating lunch with the fourth grade, an art teacher became fascinated by the shapes in the vegetable soup. The child next to her, in happy surprise, said, "My goodness, you're even an artist with your soup!" The best way to grow esthetically is to live and learn with those to whom art values are important and enjoyed.

Art as a Way of Making Value Judgments— Evaluation

Teachers and pupils can grow in ability to evaluate sensitively in art. Much of individual and group evaluation is really appreciation. As teachers and children grow in understanding of each other, they can offer each other suggestions and help and even, occasionally, criticisms. Standards of clean-up, cooperation, and perseverance can be evaluated. Some classes use simple questionnaires for discovering pupils' reactions and understandings after an art project.

One problem in the teaching profession is the difficulty of measuring results. Sometimes teachers feel especially frustrated in the art area. If you do not believe in entering the school art products in contests, if you cannot hurry children along the developmental

¹⁹ For other sources, see M. H. Erdt, *Teaching Art in the Elementary School*; New York, N. Y.: Rinehart and Company, 1954. H. A. Schultz and J. H. Shores, *Art in the Elementary School*; Urbana, Ill.: University of Illinois Press, 1948; Jane Cooper Bland, "Art for Children," *Childcraft*; Chicago, Ill.: Field Enterprises, Inc., 1954, Vol. 10; and Harold Gregg, *op. cit.*

path of stages in art expression, if you cannot give a test to measure art learnings, how can you ever satisfy the very human longing for a sense of accomplishment? How do you know your art program is worthwhile? This might be best answered by reviewing this chapter, noting throughout it suggestions for evaluation of the art program, and then developing a checklist type of rating device for a teacher to use in evaluating her own program.

Satisfied that the program is going well, some teachers are able to give up the practice of grading pieces of art work or grading *children*. They realize that grades have very ambiguous meanings in art. High grades cannot be taken as predicting adult talent and success in art, because professional art ability cannot be gauged before adolescence. Low grades sometimes seem to mean merely that the child's work is different from the kind the teacher likes.

But if grading in art proves unavoidable, if there is a little box on the report card and it must be filled with a mark, teachers have found it least objectionable to discuss the meanings of the grades with the children, and then to grade on the basis of such things as work habits, rather than try to judge the worth of an expression of a human Self.

Administrators and supervisors may wish to evaluate the art program in the school. A checklist such as "How Good Is Your Art Program?"²⁰ might be adapted for use in a staff conference or a teachers' meeting, or used by an evaluation committee.

The administrator can have a lot of influence on the art program in the school. He is responsible for decisions regarding scheduling, budgets, room assignments, custodial services, and policies of reporting to parents, any of which obviously can affect the teachers' abilities to cope with problems of time, space, supplies, clean-up, and evaluation. Even the personal attitudes of the administrator carry weight, especially with teachers who have been accustomed to authority-centered school systems. The program will usually begin to reflect the fact that the principal values art experiences, or, per-

²⁰ Howard Conant and Clement Tetkowsky, *National Elementary Principal*, 3: 11-17 (April 1951). The whole issue is devoted to "Art in Our Schools" and is a valuable resource for administrators. An abbreviated form of the checklist, for teachers, appeared in *School Arts*, 53:5-9 (Oct. 1953), entitled "Which Type of Art Program Is Yours?"

haps, shows pride only in winning art contests, or thinks of art as a way of decorating the school and impressing the parents. If the supervisor is mainly interested in professional-looking products, some teachers may be tempted to do the work claimed to be the children's own, or to plan activities for "show" rather than for their learning value. On the other hand, teachers report that when supervisors show friendly interest in the art activities going on in classrooms, both teachers and pupils feel an increased sense of achievement and pleasure in their work.

Because the quality of art teaching can be greatly affected by factors at the administrative level, an outline of some resources in this area is added below.

A Handbook of Art Education Materials, *How Much, How Many*, telling how to order and use art supplies for elementary classrooms, is available from the American Crayon Company, Sandusky, Ohio.

Teachers get new inspiration from reading current issues of art education magazines. Each school should have subscriptions to one or both of the following:

School Arts, Printers Building, Worcester 8, Mass. (\$6.00 per year, 10 issues). *Arts and Activities*, The Jones Publishing Company, 542 N. Dearborn Parkway, Chicago 10, Ill. (\$6.00 per year, 10 issues).

In making a decision about employing an art specialist, or in planning how best to use art-consultant help, some orientation may be found in Brogan and Fox, *Helping Children Learn*, (Yonkers-on-Hudson, N. Y.; World Book Company, New York, 1955), pp. 352-360, and in Rita Newton's "Supervision Can Be Creative, Too!" (*Junior Arts and Activities*, 37:31-50 (April 1955)).

In purchasing books and equipment the needs of the art area of the school program should be kept in mind. Are the books bought by the school well illustrated? Is there an adequate selection of books on art, on artists, and on art activities in the school or classroom library? Does the order list for films, filmstrips, or slides include some about art, some about art education—for parents and teachers—and some that are works

of art in themselves? *The Guide to Art Films* (American Federation of Arts, 1262 New Hampshire Avenue, N.W., Washington, D.C.) has helpful descriptions. Does the encyclopedia chosen for the school or classroom have adequate material on art? Recent and skillful treatment of art can be found in the new editions of *Childcraft* (1954) and *Compton's Pictured Encyclopedia* (1955). Are the pictures on school walls contributing to the art education of children and teachers? Art teachers, or the staff at the nearest art museum, can help in choosing and buying good prints.

Since the administrator is a key figure in community relations, he is often active in encouraging PTA Art Night, parent-child workshops, and the interpretation of the art program to the public through such things as the use of child art in local displays and on television. He can often help make field trips more efficient and effective. He can help teachers, pupils, and parents compile a duplicated list of community resources such as free scrap materials, local art and craft collections, museum hours, after-school art classes, and the television schedule of programs that would add to children's visual education. Local museums, libraries, and art centers are often of great help in extending school resources and providing special services.

DISCUSSION QUESTIONS

1. Try to recall as much as you can about the art program in the elementary school you attended. How has it influenced your attitudes toward art, and toward your own art ability? How does this affect your teaching of art?
2. Working with notes on your own elementary-school experiences, or exchanging these notes with a classmate, try to get a child's-eye view of the elementary-school art program. From this point of view work out some reminders and suggestions for teachers.
3. Re-read the description of the Workshop Afternoon, listing examples of cooperative planning—sometimes called pupil-teacher planning. Then list examples of planning which the teacher probably had to do—(a) at the beginning of the school year, (b) for this particular afternoon—in order to make the cooperative planning possible.

4. Suppose a teacher wants art to be a part of total classroom living, as in our example of a learner-centered classroom, but teaches in a school which employs an art specialist. How might the teacher and specialist work together to develop and enrich such a program, rather than making art a separate lesson taught by a visiting expert? Compare your ideas with the various solutions described in the book by Brogan and Fox—see the Suggested Readings.)
5. Find a copy of a magazine for classroom teachers, dated prior to 1945. List the activities included as art or craft work. Consider the processes involved in each activity, and the demands made on the children's thinking. Which of these activities would stifle creativity? Which would be merely busy-work? Which would encourage creative thinking? Which activities could be modified so that they would be more creative?
6. In what ways might disturbed children benefit from the qualities of discipline inherent in materials? In what ways other than discipline might the experimental approach to art be especially helpful to them?
7. In the materials approach to learning many questions should arise. How could you help children to find answers to some like these: What makes a piece of chalk different from a piece of crayon? Do the men that make schools make the crayons for it or does the principal? Where do crayons come from? Is clay just for children to play with? Do grown-ups use it for anything?
8. List as many reasons as you can think of that might cause a child to say "I can't draw," or "My picture isn't any good." Note: One teacher-education class thought of over a dozen possibilities. This exercise taught them something important for teachers to realize: when children have different reasons for their difficulties, different solutions may be needed in each case. Consequently, a textbook can't give the right answer to every teaching problem. An understanding of the child with a difficulty can suggest appropriate solutions to try.

SUGGESTED READINGS

Art Education, 6: No. 4: Journal of the National Art Education Association, Research Issue, (May 1953). (Reprints available from the National Art Education Association, State Teachers College, Kutztown, Pa.) Entitled "Evaluation of Children's Growth Through Art Experiences," this issue is devoted to a study conducted in Denver public schools to find ways of noting children's progress in art.

Indicate difficulties which would arise if these methods of evaluation were to be used as methods of giving report card grades.

- Bland, J. C., "Art for Children," *Childcraft*. Chicago, Ill.: Field Enterprises, Inc., 1954, Vol. 10. Looking at this volume, and reading in it, is an enjoyable introduction to art appreciation. To develop your understanding, try the following suggestions: Before looking at this volume, list examples of what you have been taught to regard as Great Art. Then list countries, periods, and kinds of art which have been used in this book. Which list provides richer opportunities for correlation with other classroom learnings? Which includes the widest range of work—especially the types of activities children can also engage in? Choose from this book several works of art which might seem strange to you and which you would have hesitated to use with children. Notice how Mrs. Bland presents them to children.
- Brogan, Peggy, and Fox, L. K., *Helping Children Learn*. Yonkers-on-Hudson, N. Y.: World Book Co., 1955. Representing real curricular integration, there is no special chapter on art in this book; the creative spirit shines all through it. Read pages 176-179, 197, 205-211, 320-322, and 341-348. Mathematicians, engineering professors, and large business firms have begun to stress the development of creative thinking. How can elementary school teachers foster ingenuity in their classrooms?
- Erdt, M. H., *Teaching Art in the Elementary School*. New York, N. Y.: Rinehart and Company, Inc., 1954. This book puts emphasis on group art activities in a social learnings core program.
- Gregg, Harold, *Art for the Schools of America*. Scranton, Pa.: International Textbook Co., 1947. Art as a part of daily living in a rural elementary school is depicted in vivid detail. Useful information for teachers is included, although a few overly directive methods are described.
- Lowenfeld, Viktor, *Your Child and His Art*. New York, N. Y.: The Macmillan Co., 1954. Written by an expert on children's creative thinking, this book for parents is a good introduction to Lowenfeld's philosophy. Look at the paragraph headings for topics which would apply to art at school as well as at home. (If not available, see Lowenfeld's *Creative and Mental Growth*. New York, N. Y.: The Macmillan Company, 1947, 1952, 1957.)

Which pictures, captions, or paragraphs gave you new insights into how children think when they are drawing and painting?

How might a teacher help a child to find confidence in his own way of expressing ideas in graphic form?

What evidence is given which indicates that it is detrimental to "push the child up the developmental ladder" of stages in art expression?

- Nesbitt, Marion, *Public School for Tomorrow*. New York, N. Y.: Harper & Brothers, 1953. The story of good teaching and the use of art in a school in an old building in a difficult neighborhood. (See below: *Report in Primary Colors*.)
- Schultz, H. A., and Shores, J. H., *Art in the Elementary School*. Urbana, Ill.: University of Illinois Press, 1948. Arranged in broad age-level sections, this book is helpful in planning art activities and materials. It has several strong sections on art as related to the community, the home, the consumer, and good citizen.
- Wankelman, W. F., and others, *Arts and Crafts for Elementary Teachers*. Dubuque, Ia.: William C. Brown Company, Publishers, 1954. Beginning teachers find this handbook, which deals with specific activities and materials, helpful to refer to while they are gaining experience and confidence in the use of art.
- Workbooks and Art Education*. Kutztown, Pa.: Eastern Arts Association Research Bulletin, 1952, and 1957 reprint. *School Arts*, 53:27-29; 31-34 (January 1954), Articles on workbooks and directed methods. *School Arts* 56:51-52 (October 1956). Note what happens to the "whole child" when methods are used in one area of the curriculum with detrimental effects in another area. Try to think of drawing activities which would be creative and would promote learning in reading or arithmetic. Some teachers like to start a collection of such ideas, so that they will not have to resort to busy-work and copy methods.

SUGGESTED FILMS

- Beginnings of Picture-Making* (6 minutes, sound, color) International Film Bureau, 1951. Creative Hands Series, No. 2. This film explains the early forms of children's art expression.
- Children Are Creative* (10 minutes, sound, color) Bailey Films, Inc., 1953. Produced by Central Washington College of Education. This film contrasts old and new methods of art education in an amusing animated style. To apply it in developing your own teaching skills, consider the following questions: What might the teacher have said or shown to the little boy with the clay, who had trouble getting started? (There are many possible suggestions.) Which of these suggestions would help the boy develop his own idea? Which would probably impose someone else's ideas on him?
- Report in Primary Colors* (33 minutes, sound, color) Film Production Service, State Department of Education, Richmond, Virginia, 1952

(state supported colleges may borrow from State and Regional Bureaus of Teaching Materials). This film shows art in action in the classrooms of an old school building inhabited by people with young ideas. This is the school described in Marion Nesbitt's *Public School for Tomorrow*. The film is accompanied by an excellent discussion brochure.

Teaching Industrial Arts

CHILDREN continually confront teachers with such questions as: "What made the lights go out during the storm?" "Where did the new classroom chairs come from?" "What is the hard, smooth material on this table top?" "Why do I need reading and arithmetic, anyway?" "Where is that airplane going?" "What is a diesinker?" and similar others *ad infinitum*.¹

These questions are an overt expression by children of an unsatisfied need for information to help them understand the nature and products of industry. They are also evidence of an attempt to discover practical applications of school studies.

This chapter is concerned with ways to organize and teach industrial-arts activities that are designed to help children understand industry and its many effects on their daily lives through realistic classroom experiences with its tools, materials, processes, and procedures. In these experiences pupils find applications of previous learnings and are motivated to further learning. However, a special problem presents itself in discussing the teaching of this subject field.

All teachers have some background in traditional subject-mat-

¹ A study of questions raised by children is reported in Emily V. Baker, *Children's Questions and Their Implications for Planning the Curriculum*. New York, N. Y.: Bureau of Publications, Teachers College, Columbia University, 1945.

ter areas and can realistically consider teaching problems and methods in these fields. However, most teachers have little notion of the nature and scope of industrial arts content and method. Some would have difficulty in even defining industrial arts. Attention is therefore given in this chapter to both basic definitions and an overview of content. Without these a discussion of teaching method in this field could become a parlor guessing game.

Definition of Industrial Arts

There is good reason for teachers to be confused over the relationships among industrial arts, manual training, handicrafts, and fine arts. The terms often are misused as synonyms. The informed teacher can define each of the terms and differentiate between them.

Industrial arts comprises that area of the total school program primarily devoted to a study of how industry organizes and operates to modify materials for our needs. The study is conducted through activities involving selected tools, materials, and methods of industry. These practical activities are designed to provide an awareness of industrial materials, methods, and problems; to broaden knowledge of vocational qualifications and opportunities in industry; to improve consumer competencies; and to increase knowledge of the effects of industry on our culture. Emphasis is also placed upon broadened leisure-time interests, knowledge, and skills.

Industrial arts, as a practical art, differs from the fine arts primarily in purpose and emphasis. Industrial arts is concerned with the nature of materials and the ways in which they can be formed to meet practical needs. The esthetic is important in industrial arts primarily to the extent that it affects the producer and consumer when they consider the value, production, and function of industrial products. There are probably more similarities between the two areas than there are differences. Both offer opportunities for self-expression and problem-solving with concrete materials. Some schools offer integrated practical and fine arts programs under such titles as "com-

bined arts" or "related arts." These programs may include some or all of the areas of industrial arts, household arts, agricultural education, business education, dance, drama, music, sculpturing, painting, and handicrafts.

Handicrafts were the grandparents of industrial arts while manual training and the manual arts were the parents. Misunderstanding of the relationships among these has impeded the development of industrial arts by leading to a belief that industrial arts was being offered when in fact it was not.

If a pupil weaves cloth in a way comparable to that used by home craftsmen of former centuries, with the learning of the materials, processes, and skills as the end-goal, this is a part of handicrafts. If the same activity occurs within a context of learning the development of the textile industry and the relationship of the handicraft to the total development, then it is a part of industrial arts. Handicrafts, in and of themselves, do not constitute an industrial-arts program. They are valuable in industrial arts for developing hobby interests and in providing historical perspective to modern industry.

Manual training sought mental and physical disciplining through manipulative work that was derived from the basic elements of some few skilled trades. Materials were studied as they related to a trade, and the skills learned were looked upon as ends in themselves. Early in this century the word "arts" was substituted for "training" to indicate a need for greater emphasis on the esthetic aspects of the program. But manual arts continued to have a skilled trade emphasis. Both these forms of activity were soon replaced by industrial arts in which the content is industry-oriented rather than skilled-trade-oriented and in which the organization and instruction are based on new theories of teaching and learning.

An improvement in the social or academic adjustment of the individual through a better understanding of his capabilities may well be the most significant outcome of his participation in industrial-arts activities. On the other hand, a hobby interest, abilities to sketch or to work with tools and materials, or a better understanding of the operation of industry and its significance may be the most important outcome. Ideally, there would be growth in all these ways.

We find both industrial arts and trade and industrial education included under the generic term "industrial education." The two should not be confused. Industrial arts, as a part of general education, is necessary to the education of all. It extends vertically through the whole school program. Trade and industrial education trains people for employment or advancement in specific industrial trades or occupations. It is commonly offered to those over sixteen years of age.

The Need for Balance

Many question whether industrial arts is content or method at the elementary level. It is both. The teacher is not taking advantage of all the educational potentialities of the activity whenever this is forgotten in planning and teaching elementary industrial-arts activities. This point is so important that it will be further clarified by the hypothetical cases of Teachers A and B.

Teacher A had never had any formal preparation in industrial arts and never had been very handy with tools, but he had observed a number of incidents in working with his class that caused him to be concerned over the degree of pupil illiteracy as regards industry and industrial products. Once he asked a fourth-grade class how plastic toys and household items were made and was surprised to find no pupil able to answer. He also noticed many pupils had no idea how their fathers were employed, to say nothing of the nature of their work or necessary job qualifications.

Teacher A could not help but note how different the educational needs of children were now compared to those of a few generations ago. He knew that children could no longer watch their clothing being made at home, see their furniture made by the local cabinet-maker, or see metal goods formed by the village smith. He resolved to provide some practical activities for his pupils to enable them to comprehend what children once learned by merely being alert to activities within their homes and their relatively independent communities.

Without further ado, he asked his class whether they would like to work with tools and materials in the classroom. On the basis of a

interest and expression of interest. They planned to visit a factory and to have some people from business and industry visit the school. They ordered some interesting movies with technical information and showed other activities in school. Planning progressed with a belief that Teacher A was assured that his experimenting with project activities would prove worthwhile.

The day came for the field trip and everyone was extremely excited. No two saw the same thing and the factory was so large that they heard little of what the guide said. They had difficulty deciding what the men were doing and never did truly understand how the "lumpy stuff" came out at the end of the packaging line as some pretty things. They wondered how such a big factory happened to be there in their community and why they had never seen any of the products in their hometown. And where did that "lumpy stuff" come from? They wondered too by whom and how it had been decided that various jobs should be fixed by particular individuals. Though it was not well done, the field trip proved to be fun and everybody wanted to take more of them.

Procedures bogged down when they tried to implement the many things they planned to do. Teacher A himself was stumped by the tremendous range of activities which could be put in integrated units of work. When organized plans failed to materialize, pupils began to lose interest. No place was provided to store tools and materials and some parts of the projects were lost; things grew progressively worse. Teacher A called off the whole thing at the end of the semester because he could not relate the activity to the other work and besides, it made the room so messy.

Teacher B, as an undergraduate, had a two semester hour course in industrial arts for elementary teachers. In it, only manipulative skills were taught, and his methods course failed to explain what he was to do with this skill. Despite his training, he did a thorough job of establishing criteria for the selection of industrial-arts content for his grade level. He carefully outlined his activity units, obtained all the necessary equipment and materials, and provided his pupils with rigidly structured industrial-arts experiences carefully designed to help them to adjust to and enjoy their cultural heritage.

Teacher B was amazed when he found that his satisfaction with his planned experiences was not reflected by the pupils. Some had immediate need for experience in an area planned for second semester because they were planning to build stage props for a play. Others had difficulties because their mathematical abilities did not yet enable them to make some necessary calculations. Pupils in another group had already learned to do most of the tasks included in the planned unit in their fathers' basement workshops. Other individuals had

received mechanical do-it-yourself kits and had had difficulty completing them. Another had received a camera for her birthday but did not know how to operate it. It seemed that nearly all the students had interests which either did not fit the schedule or were ignored in the teacher's planning. Teacher B tried to force the pupils to follow his plans and failed. The following year he discarded the whole business as impractical.

Do not judge these teachers too harshly for they are probably to be commended more highly than Teacher C who made no attempt to broaden and reinforce learning in his classroom through practical activities. It is unfortunate that Teachers A and B did not have the opportunity to discuss their undertakings with each other, that their professional literature did not provide them with more adequate help, and that their schools were without the services of competent supervisors or industrial-arts consultants who could have helped them to achieve the commendable goals they sought.

Teachers A and B lacked knowledge of either content or method in industrial arts. Their failure to compensate for their particular inadequacies destined their sincere efforts to failure. The specific failure of Teacher A (and, obviously, of his counterparts whoever they may be) was his neglect of the need for a frame of reference which would have provided an understanding of the breadth of content available, the progress that had been made in covering this content, and the areas in which work was most needed. He understood children and teaching processes, but he had no concept of the role of industrial arts in the modern elementary school. Teacher B discounted the importance of pupil involvement in a successful classroom venture. Neither teacher understood the two ways in which content can be approached: through units of work centered in industrial arts or through individual or committee industrial-arts activities integrated with other studies. Both also failed to provide adequate physical facilities.

The remainder of the chapter will be devoted to consideration of ways in which teachers can avoid the difficulties faced by Teachers A and B. Attention is given first to Teacher A's major problem: the provision of a logical system for subdividing the fabulous spread of industry from which industrial-arts content is derived and of a knowledge of typical activities that do teach children about industry.

Content Areas

The best-known early attempt to provide units of industrially oriented activity for the elementary school was Bonser's divisions: food, clothing, shelter, utensils, tools, implements, and machines, and the field of printing and publishing.² The divisions of communication, construction, management, manufacture, transportation, and power seem to be more representative divisions of modern industry. The following description of these divisions is abstracted from a study by Gilbert.³

Management is all-pervasive and is not taught apart from other units. It is concerned with the production, capital, and personnel organization of all industry.

Communications covers the recording and transfer of thoughts and ideas. It is divided into graphic arts and electrical and electronic communications. Both subdivisions deal with composition and duplication, transmission and reception, and interpretation.

Construction includes a study of those man-made changes in the environment which are completed at the site where they are used. Typical examples are highways, buildings, bridges, waterways, railroads, and airports.

Manufacturing includes the older divisions of food and clothing and part of the units on utensils and tools, implements, and machines. It includes a study of processing raw materials and fabricating them into useful goods. The three phases concern basic materials, their fabrication through chemical or physical processes, and the distribution of the output to industrial or ultimate consumers.

Power is basic to the other divisions of the technology, but there are also independent studies and activities that can be conducted in this division. Power includes a study of the ways in which man generates, transmits, and utilizes natural (food, sun, water, wind), electrical (chemical and physical), and thermal (atomic, gas, liquid, and solid) sources of energy.

² Frederick Gordon Bonser, "The Place of the Industrial Arts in the Elementary School," *Industrial Education*, 24:132 (November 1922).

³ These divisions were first suggested in a paper, "The New Industrial Arts Curriculum," presented by five Ohio State University graduate students at the 1947 American Industrial Arts Association Convention in Columbus, Ohio.

⁴ Harold G. Gilbert, *An Industrial Arts Teacher Education Program for Elementary Schools*, Ph.D. Dissertation, Ohio State University, 1955, p. 62-67.

Transportation is concerned with the ways in which man moves men and materials from one place to another to his advantage. It is further divided into land, water, and air transportation.

These are general definitions of major industrial divisions or content areas. They provide a framework within which an unlimited number of activities can be developed. This framework is used as a gauge to determine the scope of a program and, by identifying previous activities within it, gaps in programming also can be determined. Armed with this concept of content, teachers and pupils in their planning would not be likely to spend semester after semester carving animals out of soap, weaving pot holders, or building objects out of wood in the name of industrial arts.

Selected activities need not be restricted to any one division. Some activities will naturally cross division lines. This is desirable. The divisions are guideposts rather than rigid barriers. An unlimited number of activities can be developed within or among the divisions of industrial-arts content. These activities ideally grow out of classroom situations that indicate their need. For example, one class may choose to study construction through the building of a scale model of their community. They may choose to ignore, for the time being, the role of utilities, communications, transportation, and manufacturing plants and products. Another class may decide to study combinations of the content divisions or to cover all in a single unit of work. From this it can be seen that the degree of integration between divisions may be dependent upon either the activity selected by the class or the extent to which relationships are made apparent.

Sometime during their elementary-school years children should become acquainted with all five divisions of American industry through realistic experiences in the classroom. Inability to identify and to teach suitable activities within logical divisions of industrial activity has remained the severest handicap to universal acceptance of industrial arts in the lower grades. Uninformed teachers are inclined to look for a way to downgrade traditional secondary-school industrial-arts activities for elementary-school use. This is the surest way of losing much of the possible good to be obtained from this content area.

Industrial arts in the lower grades must be integrated with the total elementary-school program in order to provide maximum learning potential. For example, within the modern concept of industrial arts, a pupil is expected through working with wood to learn how to use properly a saw, hammer, and bit and brace, but it is also of concern that he learn:

The word *wood*, spelled *w o o d*, refers to a kind of material that feels, smells, looks, and works in definite ways.

Wood is also cellulose, the material that is used in paper, rayon, and a host of other products we use every day.

Industry uses wood in certain ways to provide us with homes, clothing, books, and a multitude of products.

Measurement is essential in building things.

One board foot means a mass of 144 cubic inches.

Reading ability is essential in following written instructions as well as in finding information that will enable one to work in ways that are new to him.

Certain attitudes must be developed toward working with mechanical things if accidents are to be minimized.

Drafting is a universally understood language among men and a basic means of communication.

Industry employs people who perform certain skills within a certain type of organization to produce wood products.

Wood is one of many natural resources that can benefit man if properly utilized.

In addition, pupils can develop hobby interests and learn something of vocations through experiences with wood and other materials. The need for helping with hobby interests in the elementary school was documented by a recent study which indicated that most hobby interests are developed between ages of nine and fourteen, before many children have had an opportunity to learn industrial arts.⁵

⁵ Lloyd P. Nelson, *Selected Factors Associated with High School Students' Origin, Interest and Subsequent Development of Interest in a Favorite Leisure Time Activity*, Ed.D. Dissertation, University of Illinois, Urbana, Ill., 1956, pp. 56-58.

Typical Activities

Some typical activities that can be conducted within each of the content divisions are outlined in the following table. They are of two major types: units of work that have industrial-arts activities as their primary emphasis, and limited industrial-arts activities that complement and are integrated with other studies or activities. In the following examples all the activities of the latter type are related to two different parts of a school program—a Thanksgiving program and general science studies. From the examples of integrated industrial-arts activities it should be evident that probably some industrial-arts activity can be profitably integrated with any school study. The range of possible activities is so great that it would be foolhardy to attempt to list them. The few examples provided should enable the teacher to envision others and thus to make it unnecessary to list examples of specific integrated activities for music (making rhythm band toys), physical education (making toys and games), and geography (making a three-dimensional terrain map of a state with the locations of principal resources shown by symbols designed by the pupils).

Industrial-arts-centered units of work, as the name implies, are built around well-defined industrial-arts activities to which other studies, such as language arts and mathematics, are related. The major differences between the two kinds of industrial-arts activities are the points of origin and the major emphases. When all the possible industrial-arts activities are integrated with other studies, and vice versa, there is no distinction between the types.

These sample activities are designed specifically for elementary grades. No attempt is made to specify grade levels for them because the complexity and nature of the units can be adjusted for the grade level where the activity and information are needed.

Perhaps the first reaction to these sample activities by one untrained in teaching—especially in industrial arts teaching—would be that they are too complex for the lower grades and that they involve too much specialized equipment. It takes an understanding of the interests and capabilities of children at various grade levels, together

COMMUNICATION

	Activities with Materials	Related Studies and Activities
Industrial-Arts-Centered Activity Units		
	1. PUBLISHING A CLASS NEWSPAPER lettering duplicating mats or stencils compounding inks lithographic printing with pupil-prepared materials relief printing in a small press silk screening plate-making by dry point etching or linoleum block cutting papermaking from waste paper and rags	<p>planning a personnel organization developing operating principles writing copy evaluating copy in terms of principles estimating paper needs and costs computing edition and individual copy costs layout and artwork visiting a local newspaper man's need for printing</p>
	2. COMMUNICATIONS IN OUR COMMUNITY (STATE, NATION, WORLD) making a color-coded overlay of a large city map showing control centers and transmission paths for various types of communication having pupils record and transmit committee reports on tape, wire, or disc preparing and presenting a demonstrated and illustrated communications-centered program for other grades over closed circuit television	<p>sound and electronic waves codes and code systems the role of communications in a free nation reasons for radio and TV transmission blackouts for civil defense tests visiting radio, TV, telegraph, and telephone centers electrical theory occupations in the communications industry developing a pupil personnel system to coordinate activities</p>

1. *IN PREPARATION FOR A THANKSGIVING PLAY*
making tickets and programs
decorating costumes by silk screening or
block printing
making recordings as part of the play
2. *IN RELATION TO GENERAL SCIENCE STUDIES*
making models that illustrate theories and
principles
making scientific toys and games

In these cases the "related study" creates the need for the activity, which is the reverse of the above situation. There is a continual reinforcement of the need for study by activities and of the need for activities by study.

CONSTRUCTION

Industrial- Arts-Centered Activity Units

1. *OUR PHYSICAL COMMUNITY*
building a terrain model
making models of structures
laying out sidewalks and streets
laying out railroads, highways, waterways,
and airports
causes of irregular population distribution
types of scales and their uses
surveying
water and soil conservation
landscape architecture
occupations in the building and construc-
tion trades
characteristics and uses of native trees and
foliage
2. *HUMAN SHELTERS*
planning and building a scale model home
making model villages of various cultures
building models portraying the development
of the American home from teepee to
contemporary house
reasons for the types of shelters developed
in different cultures
comparative costs of different types of
construction
legal involvements in property ownership
sources of the materials in our homes

Activities with Materials

Related Studies and Activities

Industrial-Arts
Activities Growing
Out of and Inte-
grated with other
Studies or Activities

1. IN PREPARATION FOR A THANKSGIVING PLAY
planning and building scenery
building a model log cabin of the type used
in Colonial times
2. IN RELATION TO GENERAL SCIENCE STUDIES
laying out a baseball diamond and determin-
ing the amount of grading or fill needed
for a regulation field

In these cases the "related study" creates the need for the activity, which is the reverse of the above situation. There is a continual reinforcement of the need for study by activities and of the need for activities by study.

MANUFACTURING

Industrial-
Arts-Centered
Activity Units

1. ASSEMBLY LINE PRODUCTION
planning and mass producing some small,
"commercial" objects made of ceramic,
leather, metal, plastic, rubber, textile,
wood, or cellulose
mass producing some "commercial" food
product
making the locating or holding devices to
make the production of duplicate parts
possible
2. FOURTH GRADERS, INC.
organizing, financing, and operating an in-
dustry
selling stock

the importance of precision measurement
in mass production
setting up job descriptions and obtaining
"workers" for each job
estimating the cost of materials
studying the characteristics of materials to
select the most suitable ones
visiting a plant with a production line

the role of advertising in mass production
kinds of business organizations and their
merits and weaknesses

mass producing the products
selling the products
dissolving the corporation

regulation of businesses by local, state, and
federal governments
sales techniques
safety regulations in a factory
inviting businessmen to sit in on planning
meetings

Industrial-Arts
Activities Growing
Out of and Inte-
grated with Other
Studies or Activities

1. IN PREPARATION FOR A THANKSGIVING PLAY

make furniture and household items similar
to those used at that time
make costumes of that era by spinning and
weaving as done then

2. IN RELATION TO GENERAL SCIENCE STUDIES

build three-dimensional models to illustrate
abstract concepts such as atomic struc-
tures, celestial relationships, and mathe-
matical principles
making an abacus
planning and building enclosures for class
pets

In these cases the "related study" creates
the need for the activity, which is the
reverse of the above situation. There is
a continual reinforcement of the need
for study by activities and of the need
for activities by study.

POWER

Industrial-
Arts-Centered
Activity Units

1. THE WAYS WE USE POWER

make a model of the electrical and gas dis-
tribution systems in the community, and
show other power sources
make machines and models that demonstrate
the ways we develop, transmit, or utilize

horsepower as a unit of measurement
visit a hydroelectric or other type of gen-
erating plant
the relative efficiency of various kinds of
home-heating systems

Activities with Materials	Related Studies and Activities
<p>power, such as a small steam engine, a water wheel, a hydraulic system, an electrical transformer to reduce voltage for a toy, a wind-actuated toy, or a simple battery</p> <p>make simple drawings of power transmission systems as found in a refrigerator, TV set, automobile, power mower, motor bike, or furnace</p> <p>demonstrate mechanical transmission principles with an Erector set</p>	<p>the sources of our energy, past, present, and future</p> <p>ways of measuring energy so that it can be sold</p> <p>ways in which we can save power</p>
<p>Industrial-Arts Activities Growing Out of and Integrated with Other Studies or Activities</p>	<p>In these cases the "related study" creates the need for the activity, which is the reverse of the above situation. There is a continual reinforcement of the need for study by activities and of the need for activities by study.</p>
<ol style="list-style-type: none"> 1. IN PREPARATION FOR A THANKSGIVING PLAY <ul style="list-style-type: none"> make candles or oil lamps to convert solid or liquid fuel into light make a model home-heating system of Colonial times 2. IN RELATION TO GENERAL SCIENCE STUDIES <ul style="list-style-type: none"> build some devices that will demonstrate changes in energy forms building machines and devices that illustrate power transmission methods 	

TRANSPORTATION

Industrial-Arts—Centered	1. PLANNING OUR VACATION TRIP	computing automobile transportation costs
	interpreting road maps and laying out the	

most comfortable and economical route by automobile, plane, bus, and train, considering travel time, cost, accommodations, and scenery en route

2. TRANSPORTATION IN OUR COMMUNITY (STATE, NATION, WORLD)

integrating models of transportation devices made in this unit with the layout in the previous communication unit
making power-propelled airplanes, boats, and automobiles
obtaining a maintenance manual on a bicycle and overhauling, lubricating, and adjusting one as a committee project

writing to obtain travel folders and time tables
inviting travel consultants from agencies or other business firms
studying the transportation companies that serve the community and tracing their routes
comparing the cost and time of mail sent by Pony Express and air mail
determining the products used in the last 24 hours and the role transportation had in the presence of each product

Industrial-Arts Activities Growing Out of and Integrated with Other Studies or Activities

1. IN PREPARATION FOR A THANKSGIVING PLAY
building transportation devices used during colonial times for scenery
making models of the Pilgrim ships for a display used to advertise the play

2. IN RELATION TO GENERAL SCIENCE STUDIES
making a CO₂-propelled jet plane or racer to demonstrate the jet principle
making a working model of a canal and locks
making a device showing the operation of an auto transmission

In these cases the "related study" creates the need for the activity, which is the reverse of the above situation. There is a continual reinforcement of the need for study by activities and of the need for activities by study.

with some abilities in and facilities for industrial arts to make any of these activities practical for a given grade level.

For example, the first sample industrial-arts-centered activity unit is "Publishing a Class Newspaper." We are apt to reflect on the huge, complex rotary presses that make our own newspapers and cast aside such an activity as impractical for the lower grades. Yet fifth-grade children can read and write. They also have some arithmetical ability. These skills provide all the background children at that age level need to carry out this project at a level that is meaningful to them.

Let us assume that a fifth grade class has become interested in the source of their daily newspapers and the nature of the printing industry, and see how they might advance their knowledge of these subjects through an industrial-arts-centered unit of work.

First they would need to lay general plans for what they expected to do. They would have to obtain some idea of the general flow of the news, inks, and paper as they come into the plant, are processed, and are delivered. Committees might be established to find how inks are made, where they come from, and how they arrive at the printing plant; how papers are made; and what occupations there are in the newspaper business and what each demands of the worker. They also might obtain films on each of these subjects. A field trip might be arranged to see the local newspaper being printed. Prior to this visit, they would need to plan what they would watch for. They could make up a list that would include such questions as: "How do the different workers dress and why?" "What provisions are made for the workers' comfort?" "Are the workers all working hard?" "Is there much running around and talking?" "Is much machinery required to print the paper?" "Is the plant clean and well lighted?" "Would you like to work in a newspaper plant?" "What jobs did you see that you would like to do?"

After the background work has provided the pupils with sufficient understanding to enable them to produce their own paper, they might then plan the kind of newspaper they would publish. They would have to determine what processes are within their capabilities and what kind of news they would be interested in reading. They would have to assign jobs and determine costs, and

they would have to develop principles that would enable them to decide what news they should print and might think it desirable not to print. Study committees could now make some usable paper from waste paper and shredded rags, compound some inks, or otherwise apply the information they had gathered. Others could gather and compile news stories. Some would need to find how many copies would be needed and what the cost would be, while others could cut linoleum-block cartoons, print stencils that could be run on a Ditto machine, and assemble and staple copies.

The final product may have a front page that is crudely printed with a wax paper stencil or a linoleum block on paper and with ink that the pupils make. The other page may be only a dittoed sheet. However, one will find that the pupils look on this with the same pride of accomplishment that is felt by the master printers who put out the biggest metropolitan dailies.

It is important to note possible pupil benefits beyond an acquaintance with printing, inks, and papers. To many it would be forcefully shown that reading, science, and mathematical skills are important outside school. It is obvious that the demand for illiterates in the newspaper business is slight. Pupils would realize that newspapers need etchers, photographers, and chemists who must know and apply scientific information. Also, almost all the workers in the plant must know measurement so they can set up columns of type, make up forms, and adjust and operate machinery.

One phase of this activity unit may also have been an integrated activity in a science class. In studying forests and forest products, someone may have been assigned to study how paper was made and to demonstrate the process to the class. This merely indicates the need for cooperative program planning through the various grades. Obviously the same pupils should not be assigned the same type of work year after year, even though previous experience in some work may cause them to volunteer for further work of that kind. It is true that a certain amount of repetition is good, but it can be overdone.

Examples will be given in the following section of how each major type of industrial-arts activity can be implemented in the classroom.

Fitting Activities to Needs

Pupils and teachers, in their planning, will identify educational needs and will determine behavioral improvements or changes that satisfy these needs. They must then plan effective activities for bringing about the desired behavioral changes.

The teacher needs to know the educational contributions that various curriculum areas can provide so that he will know the available resources for meeting educational needs. He also needs the ability to define goals in terms of behavior and to identify educational experiences which can bring about the desired behavioral changes.

The important contributions which industrial arts can make to various general education goals is shown in the following list:⁶

1. Improved Emotional and Physical Well-being:
 - a. Greater self assurance;
 - b. More realistic philosophy of life regarding the successful completion of undertakings;
 - c. Increased understandings regarding physical needs with respect to healthful working conditions;
 - d. Greater understanding regarding the safe use of industrial tools, machines, and products.
2. Growth in Ability to Use Intellectual Powers:
 - a. Improved ability in graphic interpretation and expression;
 - b. Increased appreciation and concern for accurate quantitative relations;
 - c. Growth in ability to deal with quantitative relations;
 - d. Growth in problem-solving abilities;
 - e. Greater ability in creative expression.
3. More Enjoyable and Profitable Use of Leisure Time:
 - a. A wider range of avocational interests and pursuits;
 - b. Increased awareness of the possibilities and desirability of leisure-time activities in the home;
 - c. Increased interest and participation in community and other group avocational projects.

⁶ John A. Whitesel, "The Derivation of Goals and Purposes of Instruction," *Problems and Issues in Industrial Arts Teacher Education*. Bloomington, Ill.: Yearbook 5, American Council on Industrial Arts Teacher Education, McKnight and McKnight Publishing Co., 1956, pp. 84-85.

4. Improved Esthetic Appreciation and Expression:
 - a. Greater ability in recognizing and enjoying harmonizing colors, materials, and designs in one's surroundings;
 - b. Increased understanding and appreciation of design and esthetic craftsmanship in consumer products;
 - c. Greater ability in creative esthetic expression in the various media and materials in industry.
5. Improved Social Living:
 - a. More respect for the accomplishments and rights of others;
 - b. Increased ability to work and live with other individuals;
 - c. Greater understanding and closer relationships with respect to community and cooperative group activities.
6. Improved Consumer Efficiency:
 - a. Greater understanding of design, materials, processes, workmanship, and production costs, leading to a more intelligent selection and purchase of consumer goods;
 - b. Better practices in the maintenance and conservation of consumer goods.
7. Improved Producer or Occupational Efficiency:
 - a. Greater appreciation of one's responsibilities of earning a living in our society;
 - b. Better industrial understanding, leading to more intelligent occupational choices;
 - c. Improved self-analysis from the standpoint of interests and capabilities with respect to choosing an occupation;
 - d. Increased skills and abilities relative to general industrial processes.
 - e. Greater understanding regarding the problems of securing and succeeding in a job.
 - f. Better understandings and appreciations of economic problems of industry and everyday living.

These or other goals that have been adapted by your school can be further defined by examples of pupil behavior that are illustrative of what they broadly imply. Specific activities then can be planned more clearly to achieve the behavioral changes being sought. An example of the procedure can be provided by developing one of the previously listed contributions of industrial arts with reference to a particular youngster.

Assume there is a boy who does not work well in groups, is not appreciative of the skills of others, is uninterested in games and

sports, and has had particular difficulty in seeing a personal need for arithmetic. During a time of sharing things from home with others in the class he has displayed a toy automobile parking garage that he made in his home workshop. At the same time he indicated that building things was his hobby.

If one assumes that the desired abilities, attitudes, and understandings the pupil needs are evident from just the above observations, it could be supposed he will work better with others if he experiences some satisfaction from group activities. It may be supposed further that he will regard the contributions of others more highly if he participates in a situation where the contributions of others help to achieve a personal goal. The need for number skills may become apparent if he can see their practical, personal application.

The teacher notes that industrial-arts activities might provide the desired experiences because the boy has demonstrated both interest and skill in manipulative work, and he has not achieved the desired behavioral changes through verbal instruction.

Within the educational contributions of industrial arts it was stated under "Improved Social Living" (Number 5) that a pupil may achieve through activities in this area (a) respect for the accomplishments and rights of others, (b) increased ability to work and live with other individuals, and (c) greater understanding and closer relationships with respect to community and cooperative group activities.

The teacher now needs to define the behavioral characteristics of one who has achieved these goals. He knows that a pupil who has "respect for the accomplishments and rights of others" will:

- Ask permission to use property belonging to another;
- Promptly return borrowed property;
- Return borrowed property in a condition comparable to that it was in when received;
- Recognize the contributions of others and commend them on their accomplishments;
- Place the goals of others on a plane equal with his own;
- Help others to obtain equal privilege;
- Encourage others to participate and to share responsibility.

Elements (b) and (c) under this goal can be similarly defined in terms of behavior, as can be all other goals.

Having identified an educational need and a curriculum area in which a pupil has an interest and where an opportunity exists to bring about the desired behavioral changes, it is finally necessary to plan activities. Up to this point we have been concerned with the needs of an individual. Now his needs must be reconciled with the needs of classmates, with total program planning, and with available resources. In some cases it will be necessary to relate needs for industrial arts experiences to the ongoing activity, in others it will be possible to plan a unit which has industrial-arts activities as the central theme. In most cases needs may be met in either way. A typical activity of each type now will be developed for our child with a problem.

An Integrated Activity

First of all we need a situation. Let us suppose that the class is faced with solving problems with fractions. In addition there is in the class one mathematically inclined pupil who is interested, but not very skilled, in working with tools and materials. Our boy who has a hobby interest involving manipulative work, who is skilled at this work, and who is not very able with numbers is also in the class.

These two children can be appointed—or, with a good chance of the same outcome,² be elected—as a committee to plan and construct a device which will enable the class to visualize more readily fractional concepts. They are charged with the responsibility of considering the materials and tools available and of developing a device to illustrate the relationships between fractional parts and unity and between various fractional parts. After the committee of two has discussed ways in which they can visually demonstrate the desired relationships, they must settle upon a design. One type of device which may be made is illustrated in Figure 1. They must then use measurement to build the object. Here the pupil will receive a practical demonstration of how he needs the number concepts he formerly considered to be useless. He can observe that even though

² Provided that the capabilities of those required for the job are fully explained and the capabilities of the individuals are known to the class.

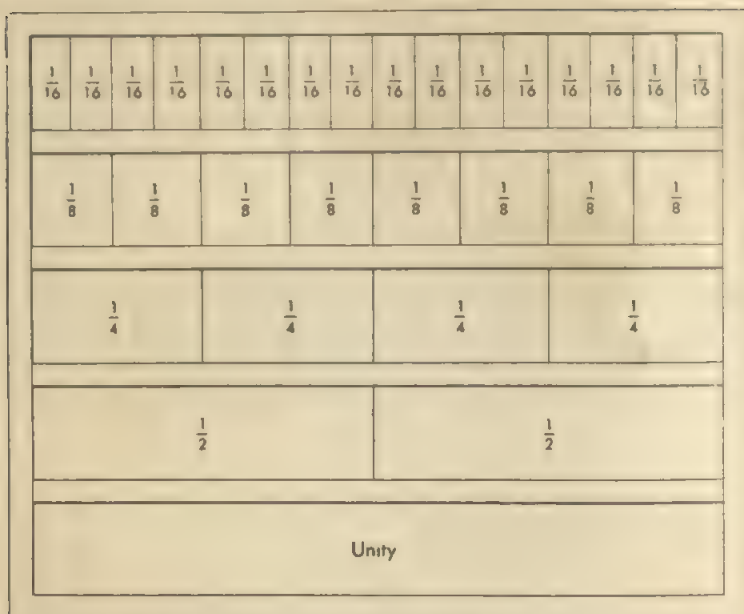


FIG. 1. Fraction board. This device can be made on a $\frac{1}{4}$ " plywood base with $\frac{1}{4}$ " moulding framing the divisions. The movable fractional parts can be made from masonite or thin boards. Plywood does not work well because it splits and slivers too easily. The fractional pieces can be arranged in any pattern to illustrate different combinations.

he had made some things by approximation and guesswork, there are other tasks which require more accurate measurement. The importance of precision measurement in mass production and subcontracting also may be pointed out. It even can be demonstrated if each boy makes some of the parts of this project.

Through this activity the boy will be able to contribute to the progress made by the class, to achieve status through his special abilities, to accept help in measuring the parts of the project, and to observe that individuals can combine skills to mutual advantage. He will have the opportunity to observe that a project can be completed through group efforts which would be beyond the abilities of any one member. The desired behavioral changes may or may not automatically result from the activity, but the teacher can promote their achievement by guiding the boy to an awareness of those things which are not self-evident and by defining alternate courses of action and their outcomes.



"Forty children in a room with old-fashioned screwed-down desks"—this is frequently the excuse for a deficient classroom art program, for limited and overdirected art lessons. When the children and their teacher do some creative thinking about the room itself, and about how to manage art activities, a varied and individualized program is possible. What other materials and techniques can be included in this classroom's art work? (Photo: New York City Board of Education.)



These blind children are discovering for themselves that they can get along in a world of people who can see, and their other classmates can learn valuable lessons in sympathy and realistic attitudes toward the handicapped. For which handicapped or exceptional children should there be separate and specialized classrooms and curricula? How much of the answer depends on the individual child's adjustment to his handicap? (Photo: Art Shea, from Time Magazine.)

The educative process is a complex one. No method enjoys universal success with all individuals and in all situations. Here too there must be a careful blending of self-direction and directed guidance, with the proper amount of each being decided by the teacher taking into account the situational factors.

It is important to note that in an activity such as the one just described the most important outcomes may be improved social and academic adjustment. It is also significant that the behavioral changes achieved may not have been gained without industrial-arts activities. However, another pupil with the same problems but other interests and abilities may be reached more successfully through games, music, or other activities. In each case the activity is selected and fitted to the child rather than vice-versa.

An Industrial-Arts-Centered Activity

An industrial-arts-centered activity can also accomplish the goals sought in the previous example. In this type of activity, planning is more involved, and suitable placement of all the pupils in the class must be worked out.

In this example we have a situation in which a fifth-grade class decided to plan a manufacturing activity to help them better understand what is meant by mass production. They sat as a board of trustees and decided to mass-produce a small toy. They studied types of personnel organizations and visited a factory with an assembly line. They planned a tentative production organization and then wrote job descriptions and elected personnel for specific jobs.*

The personnel plan is shown in Figure 2 and the production organization is shown in Figure 3. The full range of personnel activities may be brought in if a Junior Achievement[®] type of activity is carried out. In its broadest application the class will meet as a board of directors, define company objectives and policy, finance the operation through selling shares of stock to parents and friends

* Donald C. Lutz and Edward R. Towers, "Potentialities of a Pupil Personnel Organization," *Industrial Arts and Vocational Education Magazine*, 00:152-156 (May 1957).

® William A. Mays, "The Junior Achievement Movement," Ph.D. Dissertation, Ohio State University, 1954.

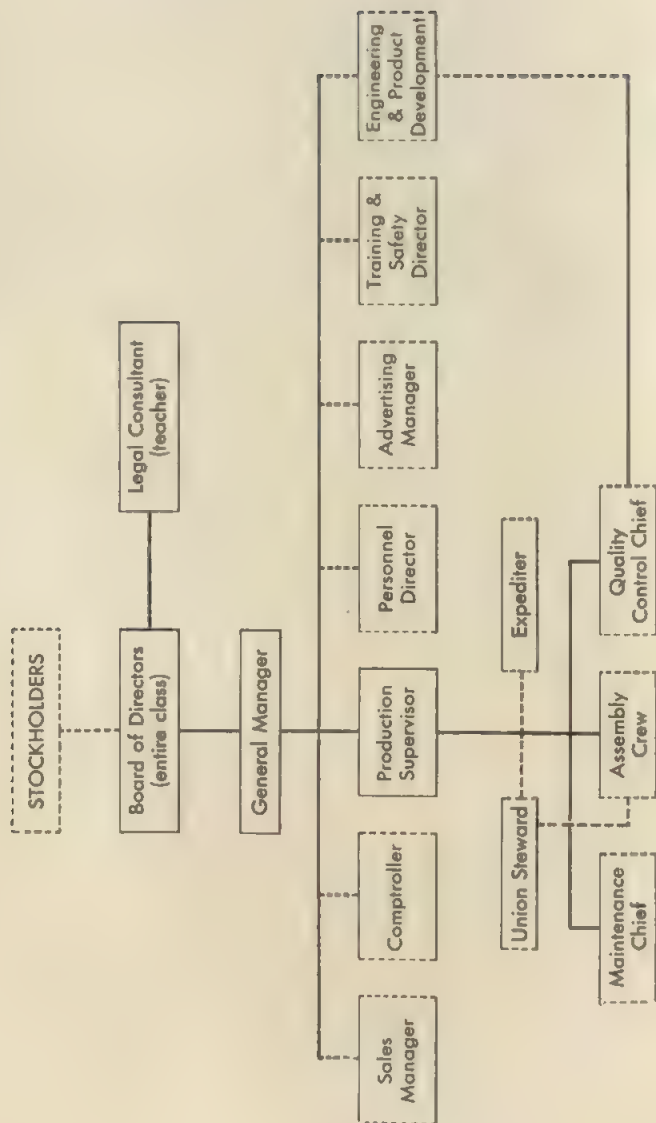


FIG. 2. Pupil personnel organization. The divisions in dotted lines are optional and any or all of them may be included according to the scope of the selected activity and the emphasis given to personnel organization. At least the divisions in solid blocks should be included in the simplest personnel organization.

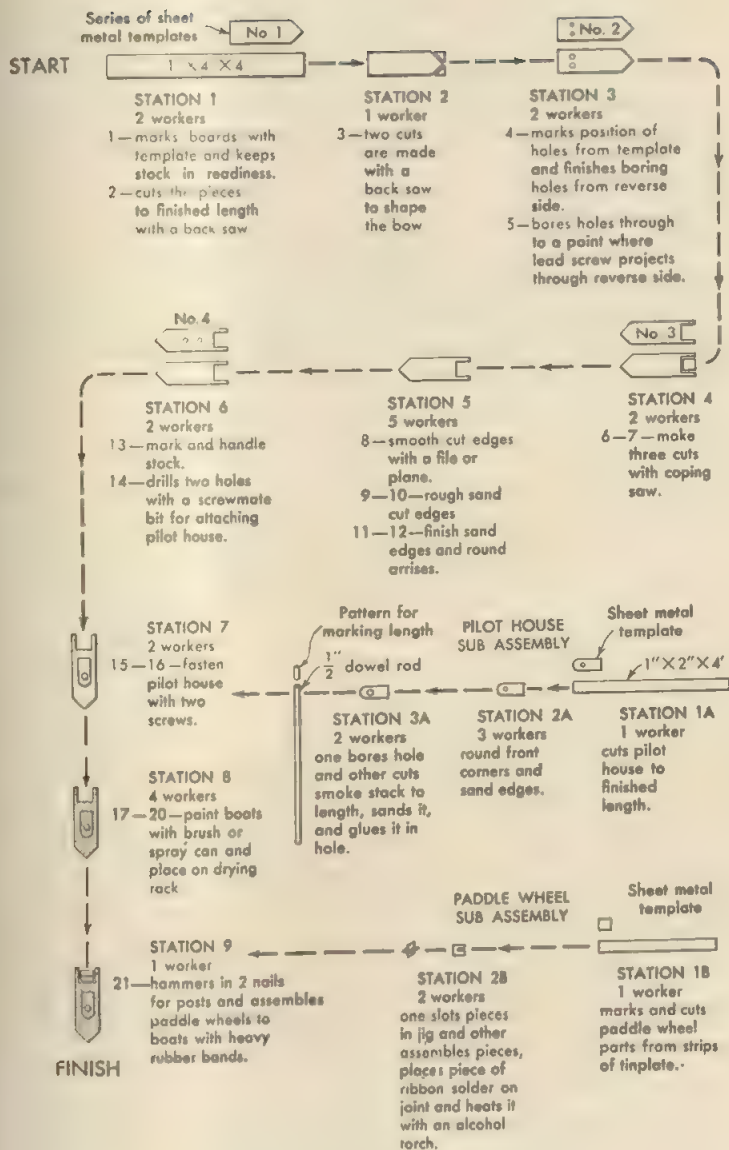


FIG. 3. Production flow chart.

Or by negotiating a loan from a class or school fund, organize and carry out production, sell products to themselves or to others, and dissolve the company. In its simplest form, at least the personnel organization for production is used, and as many additional personnel experiences are incorporated in the activity as are needed.

The first reaction of a teacher unfamiliar with the use of a pupil personnel plan in teaching may be that this is too complex a venture for youngsters. Actually, most teachers have already employed some type of pupil organization and this is only such an organization patterned after industry. Organizing pupils not only helps immeasurably in conducting activities, it also provides great opportunity for learning about occupations, human relationships, and individual differences.

In planning a personnel organization, pupils can develop an interview schedule and question parents, relatives, and friends about the kinds of work they do. They can make an occupational analysis to determine what occupations are present in their communities. They can also discuss the need for different types of skills and the qualifications for varying kinds of occupations. By the time they possess enough information to develop their own personnel plan, they will have some insights to the variety of occupations from which each must one day choose and of the varied qualifications for them. At this point individuals, such as our previously mentioned boy with a problem, can be placed to take advantage of their abilities and to provide for their needs.

Through working in a personnel organization, pupils will have an opportunity to observe in practice the advantages to be gained through placing individuals in positions where their particular abilities are used to best advantage for the individual and the group.

The production flow chart in Figure 3 graphically presents a step-by-step procedure for assembly-line manufacture of a toy. Innumerable items such as doll house furniture, crystal sets, bird houses or feeders, metal boxes, plastic toys, and ceramic ware can be organized and produced in similar fashion at various grade levels. Simplification through specialization enables lower-grade pupils to produce products they would otherwise be unable to complete.

A unit of the type described requires considerable planning and

some specialized facilities. It may also require the help of a supervisor or an industrial arts specialist or consultant.

Procedures in planning have been covered to this point. The remainder of the chapter will consider the types of industrial arts facilities and some sources of help in planning and conducting industrial arts activities.

The Physical Setting

The provision of adequate supplies and physical facilities for industrial-arts activities of the scope of those described is not as complicated as it may seem at first sight, but the importance of supplies and facilities cannot be overemphasized. The success of activities will inevitably depend partially upon adequate facilities and materials with which to work.

A few tools basic to industrial work should be available in the classroom. These would include at least the following in sizes suitable to the maturation of the students:

Holding Devices

machinists vise with pipe-jaw inserts
woodworking vise
several assorted kinds of pliers
small C-clamps
spring clamps

Cutting Devices

back saw
coping saw
hack saw
kitchen scissors
tin snips
several wood rasps
several metal files
block plane
jack knife

Striking Devices

claw hammer
ball-peen hammer
wooden mallet

Measuring and Layout Devices

compass
scriber
try square
steel rule
center punch

Drilling Devices

ratchet brace
auger bits: 1/4", 1/2", 3/4"
twist drill (enclosed gear housing)
twist bits: 1/8", 3/16", 1/4"
countersink

Assembly Tools

adjustable wrench
Phillips head screwdriver
common screwdriver

All of the above tools could be purchased, of high quality, for less than \$2000.00. Additional tools and machines may be added from the following list as they are needed and if storage or placement space is available:

mitre box	parallel wood clamps
jig saw	small kiln
bench drill press	loom
box and pan brake	type and a lever press
25-lb. anvil	16" crosscut saw
rivet sets	16" rip saw
screw plate	compass saw
automatic screwdriver	sliding T-bead square
bench metal shear	combination square
pipe wrench	drawing board, triangles, and T square
electrical test devices	smooth plane
Forstner bits	"screw mate" bits
machine wood bits	drill press vise
soldering gun or iron	file plane
router bits	

No standard list of materials or equipment can be provided. Each teacher will choose those he wishes to emphasize according to his abilities and in recognition of the needs and limitations of his particular community. A handy guide is available for what the school should provide. The teacher can simply identify what his pupils are already working with and what they have available to them in their homes.

Tools may be stored on panels mounted on the walls. These should be inside shallow, doored cabinets that can be locked when they are not in use. Tools also can be stored on portable tool panels that roll on casters and slip into base cabinets along the wall when they are not in use. In either case, the outline of each of the tools should be painted on the panel. Then when tools are removed, the bright colored outlines indicate which tools are in use and where they should be hung when they are returned.

Additional or special tools that cannot be made available in the classroom often can be borrowed from secondary-school industrial-arts laboratories, from pupils or their parents, or from local business or industry. These might include such things as added sizes

of drills and auger bits, extra tools when several of a kind are needed in group activities, or a device for checking wiring circuits.

These same sources may be contacted to perform operations with materials that are beyond the range of the limited equipment in the classroom. They may cut metal to given dimensions, provide special holding or locating devices, rip boards to a needed width, or weld pieces together. Occasionally some minor operation in a project a pupil wishes to make cannot be accomplished within the classroom. Pupils should not be restricted from making such objects for this reason alone. Outside help can be obtained from the above sources so long as one does not impose himself upon them.

Few materials need be kept on hand. Some wood and metal fasteners and various types of glues need to be stocked. Hardware dealers and lumber yards now commonly merchandise assorted boxes of wood screws, nails, sheet metal screws, and stove bolts or machine screws in response to the home workshop need for variety packages. These can be stocked in the classroom for routine work, while quantities of specific sizes and kinds of fasteners can be obtained as they are needed. Some all-purpose cement, plastic resin wood glue, and plastic cement are also essential. These are marketed in applicator tubes that simplify storage and application problems. Wood and metal finishing supplies can now be obtained in pressurized spray cans so that messy paint cans, brushes, and thinners may largely be done away with.

Some short lengths and small pieces of metal, plastic, and wood should also be available in the classroom. These frequently can be obtained gratis from the secondary-school industrial-arts teachers or from local shops. Ceramic and textile supplies also may be kept. Those supplies and materials which are not commonly used should be discarded to avoid stock-piling needless but space-consuming items.

The tool and supply problem may be further simplified if all the teachers work from a central storage room where seldom used or specialty items may be checked out by any of the staff.

Dangerous hand tools, such as wood chisels, and high-speed machines, such as grinders, probably should not be used in the lower

grades. A jig saw can be used by very young children. Its cutting speed is so slow that minor cuts are the most that can result from it, and these are less severe than can be inflicted by such tools as screwdrivers and knives. A drill press, if run at slow speeds and if the work being drilled is clamped to the table, provides little safety hazard. The use of some machines as early as possible to simplify otherwise tedious tasks is of both educational and motivational significance.

In every case where space permits, industrial-arts activities should be a functional part of the classroom. There are several ways in which activity areas can be provided in the classroom.¹⁰ Any one of them is superior to a separate industrial-arts laboratory. If the children must limit their activities to a certain scheduled part of the day, or if they must break off from the ongoing activity to take advantage of industrial-arts equipment, they will be discouraged to some degree from this activity. Certain integrational advantages also will be lost. This general rule holds until that grade level where the self-contained class ceases to be the organizational pattern.

It is important to have available in an adequate classroom for industrial-arts activities at least a sink, some built-in storage space for both supplies and equipment and pupil projects, sturdy work benches and counter tops, electrical service at frequent intervals, and movable furniture to permit organizing labor space to accommodate various class projects.

Housekeeping chores can be minimized by having adequate storage and by having tools and materials well organized. The actual clean-up required by restoring work areas to an orderly condition

¹⁰ The design of an adequate physical plant is too complex a topic to devote more than passing attention to it here. Therefore, the following references are suggested for teachers who wish to penetrate the subject in detail.

Lee L. Caldwell, "Alcove Workroom Developed in Three Patterns," *Nation's Schools*, 62:63-65 (September 1958).

Frank W. Cyr and Henry H. Lamm, *Planning Rural Community School Buildings*. New York, N. Y.: Bureau of Publications, Teachers College, Columbia University, 1949.

N. L. Englehardt, N. L. Engelhardt, Jr., and Stanton Leggett, *Planning Elementary School Buildings*. New York, N. Y.: F. W. Dodge Corporation, 1953.

Lawrence B. Perkins and Walter D. Cocking, *Schools—Progressive Architecture Library*. New York, N. Y.: Reinhold Publishing Corp., 1949.

Kenneth Reid, *School Planning—The Architectural Record of a Decade*. New York, N. Y.: F. W. Dodge Corporation, 1955.

after work periods can be a valuable part of the learning situation. Many a mother will agree that children need practice in cleaning up after themselves. Also many a home workshop could profit from better organization of materials and cleaner work habits.

The Next Steps

Some teachers will have difficulty visualizing means of implementing industrial-arts activities in a classroom. The inexperienced teacher especially will not be able to begin a full-scale program of industrial-arts activities without some background in the field or extensive assistance. This should not discourage setting out to gain the necessary understandings and abilities so that one day a full program can be offered. Resultant improvements in learning will make the efforts worthwhile.

There are a number of ways that confidence in and necessary abilities for teaching industrial arts can be gained. Well-rounded preparation in the teacher-education program is perhaps the most efficient way for the teacher to obtain necessary knowledge and some practice. Lacking this, he needs to initiate self directed study and experimentation that will lead to the necessary capabilities. Any able teacher can readily master them through reading, seeking help from other teachers and even local business men and school supply sales personnel, and by developing personal hobby and do it yourself skills. The teacher also can count on outside help. Summer school classes and workshops are available, local schools can be prevailed upon to conduct in-service programs, and state departments of education and teacher education institutions provide services.¹¹

Among the greatest helps in teaching industrial arts are materials published by educational associations, state and local school systems, and business and industry. Typical of the former is the

¹¹ For example, the Los Angeles City Schools have three full-time industrial-arts services serving the elementary schools. With kits of tools, materials, and teaching aids these staffs work to assist with classroom problems, give manual-labor demonstrations, and conduct in-service teacher-education classes. A centrally located industrial-arts workshop is also provided, and it is open at all times to teachers who seek instruction. Workshop meetings are scheduled in remote districts for teachers who are unable to travel to the central workshop.

book *Aviation Activities* published by the Materials Instruction Committee of the National Aviation Education Council (1115 15th Street, N.W., Washington 6, D. C.). This booklet is designed for lower elementary grades and provides for numerous activities that would be suitable for a unit on air transportation. Other materials by the same group are *Look to the Sky*, *Jets*, *Aircraft Number 116*, *Helicopters*, and *A Day in the Life of a Test Pilot*.

Many of the larger cities have publications that can be purchased or even obtained free by any teacher. The Division of Industrial Arts of the Chicago Public Schools has printed *House and Garden* (undated), a 163-page book on upper elementary home improvement and maintenance activities, and *Practical Arts for Upper Grade Centers* (undated), which presents industrial arts and home economics activities for boys and girls in upper grades. The San Diego City Schools have available a bulletin titled *Providing Construction Materials for the Elementary Industrial Arts Program*, which lists materials and presents plans for construction work in the social studies. Materials like these are revised or completely replaced almost yearly, so that a comprehensive listing of them is of short-term value. It is best to send a letter of inquiry to the elementary or industrial arts supervisors of neighboring large cities to determine what publications are currently available.

State departments of education also publish industrial arts guides for elementary teachers. Typical of these is a 54-page bulletin entitled *Industrial Arts for Elementary Schools*, released in 1957 by the Bureau of Industrial Education of the California State Department of Education. The teacher should obtain one of these guides or handbooks from the state in which he intends to teach.

Industry too has published numerous materials that are helpful to the elementary teacher. Representative types are the *Teachers Manual* put out by the American Forest Products Industries, Inc. (1816 North Street, N.W., Washington 6, D. C.). It describes activities in conjunction with the booklet for grades 4, 5, and 6 titled *The Forest Adventures of Mark Edwards*.

Materials such as the above should be obtained and filed according to various subjects to form resource units for industrial arts activities. These resource units are indispensable to successful activi-

ties. If teachers will watch lists of new free and low-cost teaching aids such as those published in *Industrial Arts and Vocational Education Magazine* and the *NEA Journal*, they can obtain materials to keep their resource units current.

After the teacher obtains an understanding of elementary industrial arts activities and develops suitable resource materials, he still may be uncertain how to begin the actual activities. An easy way to start is to identify both things that pupils are interested in and experiences that they have had previously in model clubs, summer camps, city recreation programs, community centers, and at home. Teachers can then begin to incorporate in the school program previously developed interests and skills to encourage and improve on what the children already have done and are doing. Teachers can use pupils with specialized skills and information as resource persons to help others with similar interests but less skill. Teachers themselves should be ready to learn from pupils with new and specialized hobby skills and fields of interest. Although it comes as a surprise to some adults, children frequently develop intense interests in many types of hobbies and in new scientific and mechanical developments that are in advance of the understanding and ability of the general public.

If the teacher begins activities in this way, he will be learning with the pupils. His function will be primarily that of making the necessary provisions so the children can pursue previously developed interests and skills. He will need to provide the necessary tools and materials and resource information so that work will progress smoothly. As the program develops it will be expected that children will be introduced to new experiences, more complex activities, and group work.

Though some teachers consciously plan the introduction of industrial arts activities, many others are unsuspectingly drawn into integrating activities with their programs. They see youngsters who are able but not very productive, who can do required work but see little need for it. They notice that these pupils can frequently be reached through hobby interests that involve a direct application of school work.

The need for arithmetic skills may escape a child faced with

imaginary problems of adding pencils or apples, but this need becomes evident when number concepts become essential in measuring and fashioning parts in construction activities in which the child is intensely involved. A child intrinsically motivated to read to provide hobby information so he can build or repair something he personally needs will be a more apt pupil than one who is assigned stories to read.

Also at the opposite end of the ability scale are pupils who benefit from practical activities. The child that is not academically gifted frequently can make better progress when he sees a tangible object which illustrates an application of what to him is an abstract theory. However, it is important for teachers to note that all children—not just atypical ones—profit from integrating activities with studies. With regard to general cases Dewey said, “. . . the child shall be led by that which he is doing to feel the need for acquiring skill in the use of symbols and the immediate power they give. In any school, if the child realizes the motive for the use and application of number and language he has taken the longest step toward securing the power, and he can realize the motive only as he has some particular—not some general and remote—use for the symbols.”¹²

In a predominantly industrialized nation children need a practical acquaintance with the basic tools, materials, and processes of industry. Fortunately, first-hand experiences that provide familiarity with industry, its process, and its products, also enable some children to experience success in school who would otherwise be classed as failures. In the interest of maximizing educational opportunities, teachers are obligated to provide industrial-arts activities in the elementary school.

DISCUSSION QUESTIONS

1. What social, economic, and professional changes can you cite that affect the need for industrial-arts activities in the modern school?

¹² John Dewey, *The School and Society*, Chicago, Ill., University of Chicago Press, 1900, p. 110.

2. What is the nature of and the relationship between industrial arts, fine arts, handicrafts, and manual training?
3. What were some of the causes for the failure of the efforts of Teachers A and B? How could these have been avoided?
4. What provides the content for industrial-arts activities at all levels?
5. Why is there a need to divide the total field into major divisions and what are some divisions that could be made?
6. Once the divisions in Question 5 have been made, need the activities be restricted to the specific divisions to provide for effective instruction?
7. In what major ways can industrial-arts activities be provided in the elementary classroom?
8. What information does the elementary-school teacher need to be able to judge the suitability of a particular activity for meeting an identified educational need?
9. What is the difference between integrated industrial-arts activities and industrial-arts-centered units of work?
10. What are some considerations that would be useful to a teacher and the class in assigning pupils to tasks in a pupil personnel organization for an industrial-arts activity?
11. What steps can be taken by a teacher to simplify housekeeping problems posed by having tools and materials in a classroom?
12. What sources of technical help are available to the elementary-school teacher?

SUGGESTED READINGS

- Bonser, Frederick G., "The Place of Industrial Arts in the Elementary School," *Industrial Education Magazine*, 24:131-134 (November 1922). Here is one of the earliest projections of an industrial-arts program for the elementary school. Purpose, content, and method are all considered. The article—and Mossman's book, that elaborates on the position here stated—is no longer in print, but this article remains is a basic work in elementary industrial arts.
- Byram, Harold M., and Wenrich, Ralph C., *Vocational Education and Practical Arts in the Community School*. New York, N. Y.: Macmillan Company, 1956. Chapter 11, "The Practical Arts in the Elementary School," describes the nature of elementary-school practical arts, their relationships with other school subjects, and their values in elementary education. Part IV of the book, including chapters 9, 10, and 11, is "The Elementary School Program."

- California Journal of Elementary Education*, 26:129-192 (February 1958). This entire issue of this quarterly is devoted to industrial arts. Major topics covered are: Industrial Arts for the Elementary School, Industrial Arts in the Curriculum, Guidance of Industrial Arts Activities, Implementation of Industrial Arts Activities, and Lists of Suggested Basic Hand Tools and Supplies.
- Gerbracht, Carlton J., "Industrial Arts in Elementary Education," *Industrial Arts and Vocational Education*, 45:1-2 (January 1956). This article presents a historical outline of the development of a concept for practical, manipulative work in the elementary school.
- Gerbracht, Carlton J., and Babcock, Robert J., *Industrial Arts for Grades K-6*. Milwaukee: The Bruce Publishing Company, 1959. A text that explains the goals of industrial-arts activities in the lower grades. It is also a source of information on ways and means of proceeding with a program.
- Leighbody, Gerald B., "Elementary All-Purpose Rooms," *School Shop*, 16:11, 29 (March 1957). This is a description of how the Buffalo, New York, schools remodeled the seventh- and eighth-grade industrial-arts shops that were vacated through reorganization. The old unit shops were made into all-purpose rooms so that all children in grades K-6 could benefit from practical-arts activities. The functions of industrial arts, homemaking, and art are described. The industrial-arts objectives for grades K-6 in Buffalo are also given.
- Lux, Donald G., "The Emerging Nature of Industrial Arts in the Elementary School," *The Industrial Arts Teacher*, 17:6-8 (January-February 1958). This article presents an analysis of factors that are shaping present industrial-arts practices in our elementary schools.
- Lux, Donald G., and Towers, Edward R., "Potentialities of a Pupil Personnel Organization," *Industrial Arts and Vocational Education*, 46:152-156 (May 1957). The place of a personnel system in teaching activities is given first. Teaching techniques and procedures for operating a successful personnel system are then presented.
- Ruley, M. J., "Selection of Equipment and Writing Specifications," *Industrial Arts and Vocational Education*, 43:159-160 (May 1954). Procedures are given for selecting and ordering equipment. Resource persons are mentioned and sample specifications are provided.
- Scobey, Mary-Margaret, "Helping Elementary School Teachers Work With Wood," *Industrial Arts and Vocational Education*, 43:333-335 (December 1954). A description is given, including pictures, of individual and group industrial-arts activities with special emphasis on wood. Typical activities and organization and teaching methods are all provided.
- Scobey, Mary-Margaret, "Helping Children Work With Clay," *Industrial Arts and Vocational Education*, 44:293-295 (November 1955).

A pictorial and written description is presented of an industrial-arts activity designed to acquaint children with clay as one of the basic materials of industry. Clay is covered in the activity from extraction through refining and construction. Typical procedures and required materials are covered in detail.

Wilber, Gordon O., *Industrial Arts in General Education* (ed. 2). Scranton, Pa.: International Textbook Company, 1954. A basic text on the nature, scope, and method of industrial arts.

Teaching Exceptional Children

EXCEPTIONAL CHILDREN are those who deviate from the average in mental, physical, and social characteristics to such an extent that they are unable to profit adequately from the curriculum of the regular classroom and require special services for maximum growth and development. Special education is that education which is given to a child over and above the regular program of the ordinary classroom. The "special" aspects consist of methods and procedures adapted to the specific learning disabilities or abilities of the child. This does not imply that all special education requires a special class placement, for this kind of special attention to the exceptionality of a child may be offered in a special class, in a special school, in individual therapy, or in the regular classroom.

A person who has a loss of some sense such as eyesight or hearing, or who has poor motor coordination or restricted mental development or defective speech, is exceptional. In addition, a person who is talented or has unusual intelligence is also exceptional. All these people have difficulty in developing to the fullest the skills

upon which society places a premium. Some may be limited in their ability to compete socially and vocationally for jobs and promotions. The gifted and talented may waste their abilities at non-challenging tasks.

To become responsible members of society, it is necessary that these people make an acceptable adjustment to their deviation. A blind person may compensate for his lack of sight by learning to use more efficiently his available skills of touch, hearing, smell, and taste, which may be useful in jobs where sight is of not too great importance. The deaf may be able to work efficiently where the noise would become intolerable to a hearing person, or develop compensatory skills in the areas of touch, smell, or keen eyesight for jobs where hearing is not an absolute requirement.

The generalized retardation of the mentally handicapped can be compensated for in other directions. Like the other handicapped they must become acquainted with their aptitudes and abilities and use them in the occupations which focus on their strong points. Many of them can learn to get along with people in a sociably acceptable manner and thus to compete successfully for certain jobs in the labor market with people who are better equipped mentally. The gifted and the talented can learn to set goals and standards for their performance which are commensurate with their own outstanding abilities, and learn to tolerate others who are not so gifted as they.

None of these skills are easy to learn, yet they are based on insights which pupils must achieve for themselves. Usually, exceptional children need help in achieving these goals. The rest of this chapter presents techniques which may be used to help the exceptional child discover his strengths and weaknesses and achieve maximum profit from his formal education.

Exceptional children have been categorized into four main groups: (1) mental deviates, (2) the educationally handicapped, (3) the emotionally handicapped, and (4) the physically handicapped. Each of these categories presents unique problems which call for individualized discussion.

Mental Deviates

The Mentally Handicapped

The category of mental deviates includes children who are mentally handicapped as well as those who are intellectually gifted and/or talented. Generally speaking, all children who are below the normal range of intelligence (below an IQ of 90) are classified as being mentally handicapped. For purposes of educational planning, the general classification of mental handicap is further subdivided into:

Classification	IQ Range	Minimum Percentage of Population
Slow learners	75-90	14
Educable mentally handicapped	50-75 or 80	3
Trainable mentally handicapped	30 or 35-50	0.2
Total care cases	Below 30-35	0.1

Slow Learners. Slow learning children can usually be educated in the regular classroom if they are allowed time to master the subject matter and if they are provided extra help with problems which give them difficulty.

Unfortunately, teachers often pay more attention to the chronological ages than to the mental ages of children in their classes. This lack of attention to the level of learning often means that a child will finish the first grade and be socially promoted to the second grade without having adequately mastered the fundamentals of reading. In the second grade he will be exposed to even more difficult materials and, since he has still not had a chance to master the academic fundamentals, he will fall farther behind his classmates. A few years of successive social promotions place the child in the impossible position of being expected to learn materials hopelessly beyond his ability to comprehend. A child then has two courses of action open to him: he can sit quietly and avoid trouble or he can become a behavior problem. In both cases he preserves

his self-identity; in the first case by becoming known as a well-behaved child, in the second by becoming known as a spirited person. But in neither case is the cause of his learning failure altered, and in both cases he probably loses some of his self-respect.

Formal tests of capacity and achievement can provide the clues for avoiding this terrible waste of human resources. Our best single index of the intellectual level of any child is his mental age. This should be determined through careful psychological assessment and interpreted by an experienced examiner. Unfortunately, many schools do not have access to the services of a skilled school psychologist. In his absence, the teacher must use whatever techniques are available. At the beginning of each school year every elementary teacher should use a good test of capacity, such as the Kuhlmann tests of mental ability, the Kuhlmann-Finch test of mental ability, the California Tests of Mental Maturity, or the Durrell-Sullivan test of capacity, to discover the mental age of each pupil in the class. These scores are not precise and mental age changes rapidly. By testing each year, consistency in the rate of mental development and fluctuations in performance can be detected and considered in the evaluation of the ability of the child to perform in an academic setting.

Tests of achievement, such as the Iowa Tests of Basic Skills or the California Achievement Battery, should be given to determine the level of achievement of each child. The results of these tests can be plotted in a double entry table. For example, suppose a third grade class consists of 5 children all 8 years old who make the following scores:

<i>Child</i>	<i>MA</i>	<i>Achievement Grades</i>
A	8	3
B	7	3
C	6	1
D	9	4
E	10	4

A double entry table where mental age is plotted against achievement for this class is shown on page 596. The squares with double

Mental Age	10				E	
	9				D	
	8			A		
	7				B	
	6	C				
		1	2	3	4	5
Achievement Grade Level						

lines represent normal ability and normal achievement (Child A). Child B has the mental ability for second-grade level work. He is an overachieving child—that is, he performs (achieves) at a grade level higher than his mental age. Child C is an 8-year-old youngster who has the mental ability of a first-grade child and who achieves at a first-grade level. He could be properly classified as a slow learner. Child E has the mental ability of a fifth-grade child even though he is only 8 years old and is in the third grade. His achievement level is fourth grade. He is a gifted child who is not working up to his capacity. Therefore, he is underachieving.

A judgment concerning the educational efficiency of each child should be based on a comparison of his mental level or capacity with his achievement—not on a comparison of grade placement or chronological age with achievement. The accurate determination of capacity requires careful psycho-educational study. In the absence of this service, the teacher can use mental age as an indication of capacity and compare the child's academic achievement with his mental age.

This is only the first step. The practical result of this analysis is to provide each child with materials on his individual achievement level. In our example, Child A should get third-grade work;

¹ For a more detailed discussion of over- and underachievement, see Lee J. Cronbach, *Essentials of Psychological Testing*. New York, N. Y.: Harper & Brothers, 1949, Chapter 12.

Child B, third-grade work; Child C, first-grade work; Child D, fourth-grade work, and Child E, fourth-grade work.

For slow-learning youngsters, such as Child C, material with low vocabulary demand but which treats the same subject that the rest of the class studies should be sought. The science books written by Herbert Zim,² for example, are designed with two levels of difficulty. Similarly, the State Department of Public Instruction for the State of Kansas has prepared lists of books which appeal to older children yet make low vocabulary demands. These simplified books are admirably suited to the slow learners in classes with pupils of diverse ability.

Teachers should remember that a provision of reading materials of these kinds for pupils on different reading levels is only the first step in the right direction. Just as the child is limited in his ability to learn to read, so he is limited in arithmetical abilities, in his ability to grasp social and scientific concepts, and often in his mechanical and artistic abilities. All curricular areas need modification, and all modifications require supervision.

It is commendable that teachers spend extra time and effort on the students with poorer intellectual endowment, but it is the better part of prudence to recognize when the level of achievement is close to the level of ability. Efforts to raise the slow learner's achievements beyond his level of abilities are not only apt to be academically fruitless, they may also create serious frustration. This is not to imply an endorsement of a teacher's attitude which is so permissive that few if any standards of performance are held. Rather, it implies that slow-learning children can achieve at a satisfactory level, and that teachers should discover that level and accept no less. This is realistic and desirable if we hold as one goal of education the efficient use of whatever abilities may be possessed by a child.

A teacher can properly be pleased to discover that over a period of time the brighter students move further and further ahead of the slow learners. This is good evidence of effective attention to the abilities of individual students. In the meantime, the slow-learning

² Herbert Zim, *What's Inside of Me*. New York, N. Y.: Wm. Morrow & Co., Inc., 1952.

youngsters should work at tasks they can understand, thus avoiding the frustration of failure and the pressure to achieve unrealistic goals.

EDUCABLE MENTALLY HANDICAPPED

Educable mentally handicapped children are those whose Binet IQ's cover the range from 50 to 75 or 80. The best method of identification involves the use of well-administered individual tests of intelligence, but in the absence of these examinations the teacher may use these criteria for placing a child in this group:

1. Is unable to understand assignments;
2. Lacks common sense;
3. Reasons at a lower level than the rest of the group;
4. Has difficulty understanding complex game rules;
5. Cannot work without considerable guidance;
6. Has shorter interest and attention span than the rest of the group;
7. Forgets simple instructions.

Generally speaking, these youngsters can be expected to learn to read, write, and master the arithmetic fundamentals up to about a fourth-grade level by the time they are 16 years old if they are given adjusted curricula. There is an implicit assumption in this category that these children may become independent members of society—independent not only economically, but also socially—under proper training and guidance. Since these children constitute a minimum of 3 per cent of the total population, nearly any school which enrolls 500 elementary students probably will find enough educable mentally handicapped pupils to justify starting a special class for them.

The controversy over whether these children should be educated in regular or special classes is a continuing one. However, evidence from two studies, one by Johnson³ and one by Kirk and Johnson,⁴ is

³ G. Orville Johnson, "A Study of the Social Position of Mentally Handicapped Children in the Regular Grades," *American Journal of Mental Deficiency*, 55:60-89 (July 1950).

⁴ G. Orville Johnson and Samuel A. Kirk, "Are Mentally Handicapped Children Segregated in the Regular Grades?" *Journal of Exceptional Children*, 17:65-68 (December 1950).

our best guide to what happens to these children when they are allowed to stay in the regular grades. Both these investigators found that mentally handicapped children were just as socially isolated by their peers in the regular classroom as if they had been physically isolated. They were shunned not only in academic work, but also in social situations. This evidence supports the belief that kinder treatment can be provided in a special class. Another consideration in favor of the special classroom has to do with the adjustment of the curriculum.

Since the prognosis for these children is that they will ultimately be able to be self-sustaining, productive members of society, it is to be expected that the program for their development would start early with those activities which will help them to become socially acceptable members of society. In an ideal situation, the children probably should be placed in a special class during the first year in school. This should mean that at the age of 6, when their mental ages would be approximately $4\frac{1}{2}$, these children would be placed in an environment which would be appropriate for them. The program would be devoted largely to teaching them social skills of cooperation and respect for the rights of others, coordinated with training in reading-readiness skills such as audio, and visual discrimination and memory. By the time they are introduced to reading, that is, when their mental ages are approximately 6 to $6\frac{1}{2}$ (CA = 9), they may be expected to have efficient sensory abilities. Daily instruction in the mechanics of reading, writing, arithmetic, and other academic skills should be reinforced by liberal drills, preferably in game form.

After the children have mastered some of the fundamentals of reading, that is to say, when they have developed a sight vocabulary of from 100 to 150 words, they should be introduced to phonics in order that they may develop not only the skills of the look-and-say methods but also an auditory method of word attack. The rate at which the material should be presented to these children should be approximately one fourth slower than the rate of presentation to average children. Furthermore, the reinforcement or repetition of the material has to be considerably greater than for normal children.

By the time the children demonstrate mental ages of approxi-

mately 8 to 9 (CA about 12 or 13) and have mastered some skills in independent reading, they should be introduced to problems which can be solved by the use of fundamentals of reading, writing, and arithmetic. In other words, at this time they should begin to "read to learn." This is a reverse of the primary program which is specifically designed to teach them to "learn to read."

Many more socially cooperative projects may be introduced at this level. For example, these children often have difficulty in finding their way about their local community. For this reason, geography lessons which start with the local school system, incorporate their local neighborhood, and then expand to include the downtown and outlying areas are excellent. Learning to move about freely and easily within the local community is one requirement of independent living.

When these youngsters reach adolescence they should be placed in a junior high-school or high-school class in which the primary emphasis is on vocational orientation. Such a program should provide for a continuation of the development of social skills, an opportunity for the children to learn to manage their money wisely and economically, a chance to find out what kinds of jobs are available to them in the community, and an actual work-experience program in which the child is allowed to work for part of the day. Thus he can maintain his contact with the school for part of the day while he is being established in a job. Such an arrangement enables the child to work out with the teacher and with his employer problems that arise in his vocational adjustment. The school program itself should include excursions to various industrial plants and other places of probable employment, help for the children in learning how to fill out job application blanks and to use newspaper ads and other agencies in finding work, and specific discussions of employer-employee and employee-employee relationships in a vocational setting.

Some problems which are common to the children throughout their whole lives involve the following:

1. Physical and mental health, including health habits of nutrition, cleanliness, and rest, and realistic self-appraisal;

2. Safety, including rules of conduct and first aid;
3. Communication, including listening, observing, speaking, and writing;
4. Home and family responsibilities, including membership rules and cooperation, finances, and other responsibilities;
5. Travel, including use of landmarks, maps, and other guides as well as sources of help when lost;
6. Use of leisure time, including both passive and active participation;
7. Social adjustment, including interpersonal and intergroup relationships;
8. Management of materials and money, including concepts of value, budgeting, and buying;
9. Occupational adequacy, including work habits, getting along with others, and accepting responsibility for tasks;
10. Moral values, including ability to make choices and recognize and establish values.

These tasks have varying degrees of importance during the child's school career, but all contribute to the adequacy of his adjustment after he has left the protection of the school.

A study by Channing⁵ shows that educable mentally handicapped adolescents change jobs rather frequently during the first year or so that they are out of school. When they find jobs which are rewarding, they become valuable employees. Post-school contact with the children should therefore include weekly follow-up meetings devoted to job and personal adjustment.

Unfortunately, the great majority of school systems do not have special classes for these youngsters. As a result, teachers the country over are faced with the probability of having one or two educable mentally handicapped children in the same class with normal and bright children. This situation creates difficult problems for the teacher. However, it is well to remember that it is probably not much fun for the child to be a misfit either.

In the absence of special class placement the suggestions for

⁵ Alice Channing, *Employment of Mentally Deficient Boys and Girls*. Washington, D. C.: U.S. Dept. of Labor, Children's Bureau, Publication 210, 1932.

helping slow learners may be used in developing a special program within the class. In addition, it should be remembered that the mental level of the majority of these chronological 6-year olds is 4¹/₂ to 5 years. This is the mental level of the average kindergarten child. It would follow that even though one of these children is enrolled in the first grade in school, he should not be introduced to beginning reading until he demonstrates that he is ready. Instead, all his academic work—reading, writing, arithmetic—should be essentially kindergarten work, i.e., sense training and other readiness activities. Socially, physically, artistically, and musically, he is more apt to be like other first-grade children, but academically he needs protection.

Yet he needs the security of participation and the wise teacher can allow this in the social activities and still shelter him academically. The principle which governs this line of actions is that the child should work at material commensurate with his mental level and be helped to participate with his peers in nonmental activities. Following this principle, grade retention for one or even two years in the first few grades may be legitimately considered.

This program of retention and presentation of materials within the child's ability to understand can be the pattern throughout his full school career. Where special programs cannot be provided, it is not unusual to find a well-placed child in a fifth-grade classroom who is 15 years old, is physically small and socially immature, has been in each of the first four grades for two years, reads at a third-grade level, is able to do only simple addition and subtraction but participates in shop-work and physical education with older children who are his physical equals. His need to achieve reasonable academic success would be satisfied; as would his need to participate in physical activities and motor skills. Socially he may be only slightly displaced, but this is probably not devastating in view of his immaturity and successful operation in other areas. The goal of adjustment for the exceptional child in the regular class is placement commensurate with as many of his abilities as possible. Where compensations need to be made, they should be governed by a wise judgment as to which are most important for the individual child. Some need to succeed socially, some physically, some academically.

TRAINABLE MENTALLY HANDICAPPED CHILDREN

Trainable mentally handicapped children are those whose intelligence quotients range from 30 or 35 to 50, and who show potentiality for growth in the areas of self-care, socialization, and economic usefulness, given guidance by a responsible adult. Various clinical types of mental deficiency fall in this category, including mongoloid children, cretinoid children and brain-injured children. Since they constitute a small segment of our population, it is quite probable that a school system with fewer than 10,000 children would be hard put to find enough children to start a special class.

The essential difference between trainable and educable mentally handicapped children is that with proper guidance the educable child can be expected to become a responsible, independent, producing member of society. The trainable child will probably never become independent. He must have sympathetic, intelligent, adult guidance perhaps all of his life, whether he is at home, in an institution, or in a sheltered workshop. The purpose of the school program then, is not to produce adult independence. It is to improve behavior through training so that the children may become more worthy members of their families, of institutions or of communities. The program stresses the teaching of such things as toilet training, habits of eating, responsibility for dressing, habits of cleanliness, and skills necessary to perform household tasks, such as setting the table, simple cooking, helping with the dishes, cleaning, gardening, shoveling sidewalks, and washing the car. At the same time better habits of self control in relations with other people are taught. This includes teaching the children how to share, take turns, accept responsibility for a task, be interested in and aware of the rights of others, and observe the rules of courtesy.

As these children attain the age of 16 or 17, they can carry on some types of part-time employment. Supervision in sheltered workshops where the children make simple things under the guidance of responsible adults has been furnished by schools. Whether at home or in an institution, these children cannot be made completely responsible for the accomplishment of a task, but rather must be directed in their efforts and encouraged by someone who can aid them in making decisions.

A great deal of controversy has arisen over whether these children are legitimate candidates for public-school work. Whether they are or not is probably an academic question, since in a great many states legislation has already been enacted which makes them the responsibility of the public schools. The question of whether they do or do not belong in the public school is therefore, meaningless. They are already there, and it is up to the public school to develop a program which will be suited to their needs and abilities. This involves suitable rooms, well-trained teachers, and a commitment to carry the child entirely through his school years and to establish him in his own home, in a sheltered environment in the community, or in an institution under guidance.

In school systems which have no special classes, these children create a real problem. Some teachers who are aware of their low mental ability (usually MA 3 for a 6-6½-year-old) legitimately refuse to accept them in academic classes. Unfortunately, the practice of excluding the child for a year or two probably means that his mental level will be no more than 4 when he is chronologically 8 years old. To wait until his mental age is 6 would mean that the child must be at least 12 before first-grade admittance.

It is our opinion that the ordinary public school teacher should not be required to accept children whose IQ's are below 55-60. If the child is accepted, he should remain in the kindergarten or first grade only so long as he is tolerable, and then be excluded. Ultimately, the child's parents must decide on provision for the child. The school can provide psychological evaluation, advice, and special classes, but not regular class adjustment.

TOTAL CARE CASES

Total care cases are those children whose IQ's range from 0 (no measurable intelligence) to 30 or 35. They constitute a small group, perhaps less than 0.1 per cent of the population. They are the children who, even under expert care and training, probably will not become very responsible and will have to be taken care of like infants. Rarely do these children show up in the public schools. They are either kept at home or they are sent to institutions at a relatively early age.

Although the public schools do not ordinarily enroll these children, administrative officials may be called upon to interpret their abilities to their parents, who want to know if it is possible to teach these children, how much should be taught them, how it should be done, and what can be done at home. It then becomes the responsibility of the administrative staff to get an expert estimate of the intellectual level of each child and a prognosis of his development, and then to interpret that information accurately, honestly, and as kindly as possible to the parents. For example, if, after exhaustive psychological and physical examination, the child appears to fall in the total care group, it is the responsibility of the school officials to so inform the parents in a forthright manner. This may require no small amount of courage, but parents can make intelligent decisions only on the basis of facts. The school should help the parents obtain these facts.

Intellectually Gifted and Talented Children

GIFTED CHILDREN

Gifted children have IQ's of over 120. They are classified as exceptional because they are the most intelligent youngsters in the school population, and because the typical public school program is so easy that the children actually need special provisions to help them operate at peak efficiency.

Although most intelligent children are good students compared with average youngsters, they often achieve at a level substantially below their outstanding abilities. This may be, first, because the gifted child does not recognize that he is bright. Second, the school program may be so sterile that it allows him no opportunity to use his ability in a creative manner. Third, a bright child may consider school work unimportant and therefore do just enough work to get by in order to concentrate his energies on pursuits that interest him.

The safest method of identifying giftedness is through the use of intelligence tests. Individual examinations by competent psychometrists for each child are best. However, in the absence of individually administered tests, group examinations with instruments (mentioned earlier) such as the Kuhlmann-Finch, California, and Durrell Sullivan can be substituted.

In addition, the teacher may use the following criteria for informal identification:

1. Learns rapidly and easily;
2. Has more practical knowledge and common sense than his peers;
3. Thinks symbolically;
4. Remembers;
5. Asks many questions on a wide variety of subjects;
6. Is alert, observant, and responds quickly.

Once the gifted child has been identified the school has a responsibility for creating an environment which will be as challenging as possible to his best efforts.

Most of the attempts made by teachers to cope with bright youngsters have either been programs of enrichment or acceleration or both. Acceleration programs have usually been unsatisfactory. For example, if a child has an IQ of approximately 150 and is a 10-year-old child in the fifth grade, his mental potential should put him roughly equivalent to the average high-school sophomore. To advance the child into the sixth grade would still have him working at material which is some four years below his mental level. On the other hand, to accelerate him to a sophomore level in high school may create such a social dislocation that it would be traumatic. In addition, he may have the mental ability but one cannot be sure that he has the prerequisite knowledge to perform well at this level.

Methods of enriching the curriculum for bright children have generally fallen into the category of giving the child the same thing to do but more of it. For example, if a child finishes his arithmetic problem before the rest of the class, he is given another problem to do. It is difficult to induce a child who is already getting A's in his work to do more of the same thing and still get the A's that he got for doing less. Furthermore, a whole roomful of work which is at a constant level soon becomes boring.

Both acceleration and enrichment overlook an interesting phenomenon common among bright children. Although the academic ability level of bright children is high, in most cases their physical

abilities do not quite keep pace. To be sure, they may be superior to other children of the same age *both* intellectually and physically, but their intellectual superiority is often many times greater than their physical superiority. The same standard of achievement may be held by the child for himself both physically and mentally. The fact that his physical growth is not commensurate with his intellectual powers may make for a very wide discrepancy between what the child thinks he should be able to do and that which he actually can accomplish in the physical line. This inability to achieve at a standard which he will set for himself often leads to discouragement and an attitude of disinterest. On the other hand, a gifted child may become so keenly aware of his physical deficiencies that he actually ignores his intellectual superiority in order to concentrate all his efforts on overcoming his physical disabilities. This kind of desperate compensation can result in a child making little, if any, use of his intellectual superiority and showing up in the classroom as a behavior problem, or becoming constantly irritating to the teacher because he does not do the things that he is best equipped to do. Similarly, the discrepancy between the child's mental ability and his social maturity may be almost as great as between his mental ability and physical ability. It is not unusual to find a bright child who will go to almost any length to be liked by his peers. Since good academic achievement sets him apart from the rest of his group, it is not unusual to find the youngster deliberately doing poorly in his school work in order to achieve at a level which he perceives to be acceptable to his peers. On the other hand, if the child is not accepted socially by the youngsters who he thinks are important in the class, he may concentrate all his efforts on intellectual achievement and show virtually no interest in social or physical development.

All children need to develop whatever abilities they have to the fullest, whether these are intellectual, physical, or social. It becomes important, then, in working with gifted children to identify the areas of discrepancy between capacity and achievement and to design programs to fit the needs of the individual. In some cases this may call for placement in a special class. In others it may be better to keep the youngster in the regular classroom and provide

ways in which he can become socially more acceptable to the group. In others, opportunity for athletic tutoring may be indicated. In still other cases, special equipment or materials and time to engage in independent investigations may be indicated. In most cases these procedures work especially well when two or three gifted youngsters can work together as a team or when they can confine their academic competition to each other rather than to the group as a whole. This gives them a chance to achieve apart from the rest of the class so that their superior achievement does not occur at the expense of other members of the class and thus endanger their social acceptance by the peer group.

Often teachers are frightened by a child who has an unusual intellectual endowment. Although a teacher has training and experience far beyond the child's, the bright child's very quick grasp of subject-matter and his analytical abilities may so exceed that of the teacher that he regularly corrects the teacher's statements. In most cases this is not done out of spite, but to the teacher it may appear that the child is simply waiting for him to make some misstatement so that the opportunity to embarrass the teacher in front of the rest of the class can be enjoyed. Furthermore, the questions which a bright child asks often appear to be foolish to the other children in the classroom and even to the teacher. If a teacher will question the child in order to find out what he is getting at, quite often he will find that the child is really not asking a silly question but is groping into an area in which obscure relationships are dimly perceived and that he needs more information before he can ask realistic questions. If the teacher can seize this opportunity to give the child the chance to do some reading or investigating and become an ally in helping the child find the information, not only is he doing the child a great service, but he also may be saving himself from a considerable amount of embarrassment.

If the child feels that the teacher is a friend who is honestly trying to help him, he will often overlook and perhaps even forgive some of the errors which teachers make. On the other hand, if the child feels that the teacher is not trying to help him or is trying to make him look foolish, he will probably turn his ingenuity in the



What are the reactions of the children who watch two classmates re-enact and interpret a frightening experience which took place on the way to school this morning? Was it a bully, two men quarreling, a policeman questioning a driver that caused anxiety? Or was it a newspaper headline or television newscast about war? An understanding teacher can help overcome anxiety by allowing expressions of fear in the classroom. (Photo: New York City Board of Education.)



"He knows how to listen and he seemed to understand just how I felt. It was easy for me to tell him about the whole thing." Was it a problem in getting along with a teacher or a difficulty at home? What kinds of records must be referred to when a child needs guidance? Does the guidance counselor assume responsibility for home visits to parents? (Photo: Dolores Ahrens.)

direction of trapping the teacher and making him look silly. In this kind of situation, it is well to remember that the child is probably much smarter than the teacher. That is not to say that the child is better informed, but it does imply that the teacher cannot expect to win all of the time. In any case, if the child is not allowed to use his curiosity and intellect in a positive manner, he will soon find other ways to put his ingenuity to use, not always in the direction of making the teacher happy in the classroom.

Of fundamental importance in working with gifted children is the encouragement of their natural curiosity and creativity. Whether the child is in an accelerated, enriched, special class or combined program, or is in the regular classroom, society needs the creativity which is a part of his exceptionality. This can be nurtured. A teacher can use assignments which allow the child to use his inventiveness to meet them in a unique way. Questions which probe the causes and causal relationships are excellent. Giving the child partial responsibility for planning, initiating, and carrying out projects helps train this creativity. The key to helping gifted youngsters is provision for freedom of growth for their curiosity, inventiveness, and self-reliance. A teacher who provides this will be helping the child, himself, and society.

Some things that have been found to be helpful in getting gifted children to work more effectively involve planning an area of study with the child. This may be started by asking leading questions such as, "What have you heard about this week that was interesting to you?" Once an area has been identified, the teacher and the child can reduce it to a manageable size for study. Suggestions for securing data can be arrived at both by the student and the teacher, and the methods of organization and reporting can also be explored.

One of the crucial aspects of dealing with gifted children is evaluation. In this joint undertaking the good and bad points of the study should be mentioned. A further step involves the reorganization of the material in light of the suggestions for improvement arrived at in the evaluation. This procedure works especially well when two or three bright youngsters form the data gathering team. (See Chapter 1, pp. 10-14.)

TALENTED CHILDREN

Usually talents in skilled crafts, art, music, creative writing, and science are found among the children who are intellectually gifted. Occasionally talented youngsters will have no intellectual superiority, but these cases are rare. Talented children are exceptional also. This means that in the area in which they are talented, arrangements over and above those found in the regular classroom should be made to provide music lessons, drawing lessons, dancing lessons, athletic training, special assistance in developing writing skills, or scientific facilities.

In some schools talented children are excused from a part of their regular class work so that they will have some free school time for the development of their talents. In addition, they should be provided with special centers with special equipment to enable them to carry out their ideas and performances more fully. Sometimes special arrangements can be made for the art, music, or one of the other teachers to spend perhaps a half hour to an hour a day with a talented child. In other cases, after-school activities provide sufficient time. Whatever arrangements are made, it is important to discover these talents early and to provide assistance to each child to develop the talent, subsidized by the school, by private agencies, or by his own parents.

Teachers and school administrators should reward the talented child in proportion to the manner in which he works up to his potential achievement level with the talent, not because of the gift itself. With these youngsters, high expectations beget high performance. Low demands serve only to waste the precious gift.

Educationally Handicapped Children

Educationally retarded children are those who achieve at grades below their mental age levels. The seriousness of the retardation is measured by the discrepancy between achievement and mental level. For example, a child who has a mental age of 8 can be expected to do third grade work in school. The following table lists several different youngsters who have this MA:

Child	CA	MA	IQ	Reading Grade	Arithmetic Grade	Classification
A	10	8	80	2nd	3rd	1 yr. Educ. Retarded in Reading
B	8	8	100	3rd	2nd	2 yr. Educ. Retarded in Arithmetic
C	6	8	133	1st	1st	1 yr. Educ. Retarded in Reading & Arithmetic

This table shows two important points. First, a diagnosis of educational retardation is based on a discrepancy between mental ability and achievement, not on mental ability alone. In this example, Child A is mentally handicapped. Child B is average in intelligence and Child C is gifted. All three are educationally handicapped and the greatest discrepancy is shown by the gifted youngster, who is achieving at a level two full years below his mental age in both arithmetic and reading. Second, a decision about the seriousness of the disability must consider factors other than merely the amount of discrepancy between MA and achievement. Child C, for example, may be just beginning his first grade work and hence achieves at a low level only because he has not been in school long enough to have learned the skills which would allow him to work up to his third grade capacity. He can therefore hardly be considered a serious case.

This discussion points up the difficulty of making a very accurate statement about the incidence of educationally retarded children in the public school. Although a standard of achievement 2 years below mental age has been suggested by Baker,⁶ in practice, only children who show a discrepancy of 3, 4, or even 5 years are usually counted. This makes up about 1 per cent of the school population, and includes only those youngsters who are so retarded as to have real difficulty in keeping up with their peers.

Although it is possible for a child to be educationally retarded in any academic subject, the pervasiveness and complexity of reading make educational retardation in this area most serious. Special edu-

⁶ Harry J. Baker, *Introduction to Exceptional Children*, rev. ed. (New York, N. Y.: The Macmillan Co., 1953), p. 427.

cation for educationally retarded children has therefore ordinarily been in the form of some kind of remedial reading provision. This provision has varied from individual tutoring sessions to special remedial classes, and from intensive case study and diagnosis to virtually none.

The success of a remedial program depends largely on early identification, accurate diagnosis, and elimination of the cause. This calls for a high degree of diagnostic skill on the part of the remedial teacher. However, in the absence of such a well-trained person in a school system, the classroom teacher can do some informal diagnosis.

A comparison of capacity and achievement can be made on each child, as suggested on page 596. This provides the information needed for both identification and degree of seriousness. The teacher should then secure accurate examinations of visual efficiency and auditory acuity. Next should come a critical analysis of the child's methods of word attack.

A useful method is to observe the oral reading of the child on selected paragraphs in a series of progressively more difficult books. The teacher should start with a paragraph from a first grade book, then a second-grade book, and so on, until the child misses or stumbles on half the words encountered. The following questions may be used as guides for appraising the kinds of errors made during reading:

How does the child attack an unknown word?

- a. Does he guess at the meaning from context? If so, is this the only method he uses?
- b. Does he spell the word?
- c. Does he sound the elements? If so, is he consistent or does he sound only part and guess the rest?
- d. Does he divide the word into parts? Is he aware of roots, prefixes, suffixes?
- e. Does he use a combination of all of the above?

What kinds of errors does he make?

- a. Does he miscall vowels or consonants or both?

- b. Does he reverse words or letters, (e.g. *was* for *saw*, *p* for *b*, *d*)?
- c. Does he add words to the sentences or sounds to the words?
- d. Does he omit words from the sentences or sounds from the words?
- e. Does he simply stop and ask for help with an unknown word?

Most elementary reading books have a list of new words in the back of the book. If a teacher has difficulty detecting the exact manner in which the child attacks unknown words, these lists can be helpful. The teacher should select the list from a book in which the child reads correctly about 75 per cent of the words in the stories. This new word list should then be presented to the child with the instruction that he read all the words in the list. Denied context, the child must rely on recognition or mechanical word-analysis skills. Observation of these skills is therefore simplified for the teacher.

Every good reader uses many different methods for analysing unfamiliar words in order to unlock their meanings. Most elementary-school children who are educationally retarded have failed to learn a systematic method of word attack. It is the job of the teacher to discover the deficiency and attempt to remedy it. The following suggestions can serve as a useful remedial guide:

1. If the child uses only context clues, systematic instruction in phonics and structural analysis can be used. Hegge, Kirk, and Kirk,⁷ and Gray⁸ offer concrete procedures for this instruction.
2. If the child makes many errors in vowels and consonants or if he reverses or loses left-to-right orientation, a tracing method of instruction may be used. Fernald's⁹ method is excellent.
3. If the child has a visual defect, this should be corrected by an eye specialist and instruction should probably involve a phonics approach.

⁷ Thorlief G. Hegge, Samuel A. Kirk, and Winfred D. Kirk, *Remedial Reading Drills*. Ann Arbor, Mich.: George Wahr Publishing Co., 1940.

⁸ William S. Gray, *On Their Own in Reading*. Chicago, Ill.: Scott Foresman and Co., 1948.

⁹ Grace M. Fernald, *Remedial Techniques in Basic School Subjects*. New York, N. Y.: McGraw-Hill Book Co., Inc., 1943.

4. If the child has an auditory defect, a visual or tracing method of teaching may be used.

Quite often children who are educationally retarded may show accompanying lack of interest or overt emotional disturbance. Whether these are causes or effects of the reading disability is probably beyond the skill of the teacher to decide. In either case the suggestions on page 618 may be put to profitable use in the remedial situation. Often, however, the added interest and attention of an accepting instructor can be enough to make the child try his best to overcome his deficiency.

In the event that the best efforts at remedial teaching fail to produce results, the teacher still has recourse to clinics. Most state colleges and universities operate diagnostic clinics to which referral can be made. The teacher should furnish the clinic personnel with test information, social history, and classroom observations of behavior. Of very great use is an accurate description of the teaching methods which have been tried but did not work.

From the clinic, the teacher can expect to get precise suggestions for teaching which can be implemented in regular classroom work.

Emotionally Disturbed Children

Estimates of the number of emotionally disturbed children vary. Baker and Traphagen¹⁰ reported 1 per cent in Detroit in 1929. Wickman's¹¹ celebrated 1928 study indicated 7 per cent. Mitchell,¹² in 1949, found 12 per cent; while Ullman¹³ in 1952 estimates 8 per cent. A commonly quoted popular figure holds that 1 in 10 persons

¹⁰ H. J. Baker and V. Traphagen, *The Diagnosis and Treatment of Behavior Problem Children*. New York, N.Y.: The Macmillan Co., 1953, pp 370-77.

¹¹ E. K. Wickman, *Children's Behavior and Teachers' Attitudes*. New York, N.Y.: The Commonwealth Fund, 1928.

¹² John C. Mitchell, "A Study of Teachers' and of Mental Hygienists' Ratings of Certain Behavior Problems of Children," *J. Educ. Research*, 39:292-307 (1949).

¹³ Charles A. Ullman, "Mental Health Screening of School Children," *Public Health Reports*, 67:1219-1223 (December 1952).

in the United States needs psychiatric care. The 1955 report of the committee on maladjusted children in England indicated a range of incidence from 5.4 per cent to 11.8 per cent.¹⁴

These percentages are a clear reflection of different bases used for judging emotional disturbance. Baker and Traphagen relied on identification by teachers, as did Wickman, Mitchell, and Ullman. The British committee used teacher identification but in one survey followed this up with an interview by a psychologist. This resulted in the 11.8 per cent figure. Wickman found that teachers and mental hygienists differed markedly in their evaluation of the seriousness of certain behaviors. Ullman¹⁵ found more agreement between the teachers and mental hygienists than did Wickman, but concluded that teachers made their identification of emotional disturbance largely on observed antisocial acts. The mental hygienists, on the other hand, were more concerned with the youngsters' personal reports of "worrying" and other "self doubts."

This sheds some light on the different percentages reported by these investigators and also on the sex ratio switch reported by Ullman. Seemingly, the fact that boys outnumber girls among emotionally disturbed children of school age, but that women outnumber men at adult clinics, could be accounted for by teachers being primarily concerned with antisocial acts as a basis for referral. The clinic clientele could be presumed to represent the unnoticed "worriers" who referred themselves.

It seems safe to conclude that the 1 per cent incidence figure is revealed in a variety of behaviors ranging from the destructive antisocial act, to wallflower-like withdrawal resulting from persistent self-doubts.

Teachers often make the error of failing to understand that basic to emotional disturbance is a persistent anxiety or fear that plagues the child. The precise cause of the inner turmoil may be related or totally unrelated to the behavior demonstrated by the child, yet "it is characteristic of maladjusted children that they are

¹⁴ *Report of the Committee on Maladjusted Children*. London, England: 1955, p. 22. By permission of Her Majesty's Stationary Office.

¹⁵ Charles A. Ullman, "Identification of Maladjusted School Children," *Public Health Monograph*, No. 7 - Washington, D. C.: Public Health Service Publication No. 221, United States Printing Office, 1952.

insecure and unhappy, and that they fail in their personal relationships. Receiving is difficult for them as well as giving, and they appear unable to respond to simple measures of love, comfort and reassurance. At the same time they are not readily capable of improvement by ordinary discipline.”¹⁶

The identification of emotional disturbance in children must be inferred from behavior. Obviously the younger the children are when they are discovered, the sooner they may be referred for treatment and the better will be the prognosis. To reduce the difference between teachers and mental hygienists in the seriousness with which they regard certain behaviors, Ohlsen¹⁷ suggests the following questions to help teachers identify these pupils:

Social Adjustment

Does he find it difficult to earn recognition from his classmates or his teacher?

Does he have close friends among his classmates? Who are they?

How do they affect his relationships within the group?

Does he seem to prefer to work alone and play alone?

Is he timid and withdrawing? Is he found “on the fringe”? Is he the one who does not play? Do his peers choose him last? Does he rarely participate in class discussion?

Is he the child who goes to the extreme to attract the attention of either his classmates or adults? For example, is he the school braggart?

Does he have an uncooperative attitude?

Is he a cruel, malicious, or destructive child?

Does he often engage in activities such as lying and stealing for which society condemns him?

Is he the school truant?

Emotional Adjustment

Does he appear to be doing an excessive amount of daydreaming?

Is he too quiet and too well behaved?

Does he frequently describe fears or express deep feeling of guilt?

Does he exhibit such behavior as fidgeting, biting finger nails, crying easily, eye twitching, etc.?

Is he easily excited?

Is he extremely jealous of other children in the home and in the school?

¹⁶ Report of the Committee on Maladjusted Children, loc. cit.

¹⁷ Merle M. Ohlsen, *Guidance: An Introduction* (New York, N. Y.: Harcourt, Brace & Co., Inc., 1955, p. 384.

Does he frequently become either sullen or moody?
Is he unusually suspicious of others?

Identification is a first step; disposition is next. A study by Buchmueller and Gildea¹⁸ provided the clue for the present clinical trend. They found 25 emotionally disturbed children in two school settings. They then arranged to provide group psychotherapy for the mothers only. The youngsters were given no special help. The curious fact is that of the 25 children involved, 18 showed marked behavior improvement. Perhaps this explains why many mental hygiene clinics refuse to treat children unless the parents can also receive psychotherapy.

This trend can also be put to good use by schools. Generally, special education provisions for maladjusted children have taken the form of special classes, special schools, and individual or small-group therapy. Where classes have been successful, a competent therapist has worked with a small group of 5 to 8 children who were extensively studied before assignment. Even then, the psychologist or school social worker spent a good deal of time helping the parents to understand the child's problems. The good results of treating both the parents and the child lead one to hope that parent therapy may properly become a school responsibility in the not too distant future.

In school systems which have no facilities or personnel for helping emotionally disturbed children, the classroom teacher may have several functions. First, he can be expected to identify maladjusted children. Second, he can initiate a comprehensive study of the child's problems in a case conference with other members of the staff to discover what can be done to avoid making the child worse. Third, he can try to enlist the aid of the child's parents, and fourth, he can provide a classroom climate of emotional warmth and adult integrity.

The questions on page 616 can be used to help teachers identify emotionally disturbed children. The case study procedures outlined in Chapter 3 can be used as a technique for getting information about the child. A home visit in which the teacher earnestly asks the

¹⁸ A. D. Buchmueller and Margaret C. L. Gildea, "A Group Therapy Project with the Parents of Behavior Problem Children in Public Schools," *American J. Psychiatry*, 116:46-52 (July 1949).

parents for help in identifying possible causes of the child's unhappiness and for suggestions for removing these causes often allays the child's fears and wins the parents' cooperation in helping the child. The provision of an emotionally satisfying classroom is more involved, but no less important.

Apparent contradictory rules have been preached as principles for classroom discipline.¹⁹ For example:

1. "Do not overprotect a child lest he becomes helpless" has its opposite in "do things for children so they will know they are loved."
2. "Strict discipline produces frustration" is contradicted by "too much leniency produces lack of inner control."
3. "Involve children in democratic planning" has its antithesis in "behavior limits should be defined by adult wisdom."

Kirk aptly points out that the advice on overprotection versus rejection, discipline versus freedom, and autocratic versus democratic control is actually not contradictory. "It appears there is a delicate balance . . . which must be maintained to produce a normal [emotionally] healthy child." Thus, if a teacher can follow a course of balanced action which assures both success and cushioned failure, permissiveness, yet enforced restriction and planning under guidance, such a climate can be fostered.

In working with all youngsters, the teacher is a prime guardian of their mental health in school. Under no circumstances should the school contribute to the fears of its children. By the same token, once a child has been identified as being emotionally disturbed, the teacher should remember that both antisocial and insecure behaviors are mere symptoms of disturbance. It is the underlying cause which needs correction. Therapy is not a classroom function, nor is the average teacher equipped to carry on this work. But a classroom teacher can refer disturbed children to specialists, and, most important, by precept and example the teacher can help each child develop a wholesome self image.

¹⁹ Samuel A. Kirk, "The Emotionally Disturbed Child—Signs, Symptoms and Causative Factors: Educator's Point of View," *Proceedings of the Fourth Annual Conference on Crippled Children*, Richmond, Va.: Virginia Council on Health and Medical Care, 1955, pp. 21-22.

Physically Handicapped Children

Speech Handicapped Children

Speech handicapped children constitute one of the largest groups of exceptional children. Estimates of the number who require special help vary, but the U. S. Office of Education²⁰ places the incidence at about 6 per cent. This group includes children who stutter and those who have voice disorders, articulation problems, and physical abnormalities. Furthermore, severe speech difficulties often have multiple etiology. Treatment, therefore, depends upon an accurate appraisal of the degree to which each cause contributes to unintelligible speech. This must be done by an expert.

Special education in this area involves an individual therapist who works with an individual or small group for half-hour sessions, two or three times per week. Since the children are usually seen during school hours in small therapy rooms, one speech correctionist is able to carry from 75 to 100 cases and travel between several different schools. Thus any school system which enrolls from 1200 to 1500 elementary school youngsters should employ one full-time speech correctionist.

In the absence of a speech correctionist, the classroom teacher may still do some effective work. First, the teacher should not encourage poor speech from his students. Second, he should present a good speech model for his students to imitate. Natural, correct, accurate expression can provide a standard for the whole class to copy. Third, a teacher can make an informal diagnosis of speech sounds in his classroom. The following questions can be used to help classify errors:

1. *Are the errors primarily of a learned nature?*
 - a. Does he substitute sounds (for example: *th* for *s*)?
 - b. Does he omit sounds such as *r*'s and *l*'s?
 - c. Does he distort sounds, such as whistling on *s*?

²⁰ *Needs of Exceptional Children*. Washington, D. C.: Office of Education Leaflet No. 74, 1944.

- d. Does he make voice errors, i.e., speak too high, too low, too loud, too soft, too rapidly, too slowly?
2. *Does he stutter and if so, under what conditions?*
3. *Are the errors due to an organic cause?*
 - a. Does he have a cleft lip? Is his palate cleft or narrow and high?
 - b. Is his hearing normal?

Fourth, remedial work can be started on the basis of the informal diagnosis.

If the child makes errors of a learned nature, the teacher can demonstrate tongue and lip placement and breath control for making the correct sounds. The book *Speech Problems of Children*,²¹ edited by Wendell Johnson, describes methods of doing this.

If the child makes pitch, time, or loudness errors, humming, singing, and choral reading provide good remedial exercises.

Stuttering is a serious problem. The classroom teacher cannot expect to treat the condition successfully. However, the stutterer can be allowed to participate in class discussions and to take as much time as he needs for his contribution. He should be encouraged to talk, and protected from ridicule by other members of the class. Since stuttering may be a symptom of emotional disturbance, the suggestions on page 618 may also be apt.

Every effort should be made to refer children with hearing loss or lip and palate abnormalities to competent clinic help. A letter to the nearest college or university speech and hearing clinic will usually be sufficient for getting diagnostic help. Correction which may involve surgery can usually be secured through State Societies for Crippled Children, usually without cost to the patient.

Visually Handicapped Children

It is estimated that approximately 2½ per cent of school-age children have some kind of eye defect. Of that 2½ per cent almost 19.25 per cent have defects that are correctible if they are detected

²¹ Wendell Johnson et al., *Speech Problems of Children*. New York, N. Y.: Harper & Brothers, 1948, Chapter III.

early. It is most important then that each school system have some arrangement for visual screening, including not only the Snellen chart, but also access to diagnosis for determining which children need further examinations.

In the absence of visual diagnostic devices, a teacher may suspect visual deficiencies in children who show the following behaviors:

1. Blinks or rubs eyes frequently.
2. Becomes irritated when doing close work.
3. Seems sensitive to light and complains of aching or burning eyes, has red-rimmed or swollen eyelids.
4. Complains of dizziness, headaches, or nausea following close eye work.
5. Stumbles frequently.
6. Holds visual objects close to eyes.
7. Is unable to participate in catching games.

Children who are blind or partially sighted are legitimate candidates for special education. A blind child is one who has 20/200 vision or worse in his better eye after it has received the optimum correction. This means that after the child has had all of the correction it is possible to give him, he sees at 20 feet what a person with normal eyes is able to see at 200 feet. A child is considered to be partially sighted if his vision is 20/70 or worse in his better eye after correction. Again, this would mean that a child who is partially sighted would see, after his eyes have been corrected as well as possible, at 20 feet what a normal person would see at 70 feet.

The kind of special education needed for children who are blind is different to that required for children who are partially sighted. Blind children generally need the kind of education which will allow them to learn to read Braille and to use sources other than their eyes for moving about from place to place. They should be encouraged to begin their training in the learning of Braille, either at home or in a residential school, at as early an age as possible. Some authorities recommend that Braille reading be begun by the age of 3 for most blind children who have normal intelligence. Other workers in the field maintain that it is better to delay the actual teaching of Braille until the child is at least 6 years of age. Perhaps the only

generalization which can be made is that a child should be taught Braille as soon as it seems practical in his particular case. Whether this is done at home or in an institution is a problem which must be settled by the family and others interested in the welfare of the child.

Children who are partially sighted may be educated in the public schools. Braille is not necessary as a tool to their getting along in school, provided they are given books which have special 24 point type, magnifying glasses, and other special equipment to enable them to use their limited vision in learning to read and write. Often, special class teachers work with the children for a part of the day, allowing them to be with their peers in the regular classrooms for the rest of the day. This is a very satisfactory arrangement since it gives these children experience in getting along with other children at the same time that they are learning their academic skills. In other words, psychological problems of isolation are not so apt to occur when these children are in the classroom with their peers.

The number of children who fall in this category is, however, only about 0.2 per cent of the school-age population. This would mean that in order to justify a sightsaving class, the school population would need to number approximately 4000 children. Because of the small number of children involved in this program, many schools have appointed one teacher in the system to be responsible for getting some training and the equipment necessary to carry on sight-conservation work, and have sent him two or three children in the building. This works fairly well, provided that an itinerant expert from either the state or county has an opportunity to supervise the work and to offer suggestions to the local teacher. It has not worked well when there has been no outside help and guidance from experts for these regular classroom teachers.

Perhaps no single pattern is best. Each school should ascertain its own needs. In most states, the Department of Special Education in the State Department of Public Instruction will have experts who are available on request to give advice as to the kind of program that best suits that particular school.

Where no class is available, teachers can obtain materials and equipment from the State Departments of Public Instruction by

writing and describing the children who need help. Usually books and equipment are furnished free or for slight cost, and special instruction pamphlets are included. Any child with poor vision should be given special consideration in seating and in the visual demands placed upon him. This can be done by allowing him freedom to walk up to blackboards, displays, and bulletin boards and to change seats when necessary. Sighted children need the opportunity to see things at close range and therefore should be allowed considerable freedom of movement. This need is even greater for the partially sighted.

Perhaps the most important lesson the child with partial sight must learn is that of independent movement. The teacher must use his good judgment in deciding when to stand idly by while the child encounters situations he must learn to negotiate by himself. For example, it is easy for a teacher to see and pick up a dropped pencil. But it is more important that the child learn not to depend on others for getting him out of careless mistakes. The experience of watching him grope for the lost object may be punishing to the teacher, but if the child learns to be careful, it is worthwhile. Poor vision is a handicap, not an excuse for dependent behavior.

Children with Hearing Disabilities

Children who have hearing disabilities fall into three general categories: deaf, deafened, and hard of hearing.

DEAF CHILDREN

Deaf children are those who have a hearing loss greater than 75 decibels on a pure tone audiometer in the better ear and have been deaf from birth or shortly after. They have had no chance to develop language through the ordinary auditory channels and must be taught it without benefit of sound. Of all the areas of special education, teaching children who are deaf is probably the most exacting and difficult. The requirements for a teacher in this area are much more rigorous than for any other area of special education.

A few years ago all deaf children were automatically relegated to the care of state schools for their education. Recently some of the

larger public schools have inaugurated classes for deaf children, secured modern equipment and well-trained teachers, and have operated on programs of oral rehabilitation or oral habilitation while the children were in the regular school. It is difficult to know which of the two approaches is better; it probably depends largely on the local situation, the distance from the state school for the deaf, and the availability of well-trained teachers to work in this area.

DEAFENED CHILDREN

Deafened children are those who have the same profound hearing loss as deaf children, but who become deafened after the acquisition of some language. If the child has had this chance to learn language, there is a good chance that he will profit from education in a class for hard-of-hearing children. Certainly the problems of communication for a child of this kind are less severe than for a child who has had no language development of any kind. Once again, the requirements for a teacher in this area are exacting. Every effort should be made to remedy the hearing loss through surgery and the use of hearing aids or other amplification equipment.

HARD-OF-HEARING CHILDREN

Hard-of-hearing children have a loss of 35 decibels or more in their better ear. In most instances, these children can be helped considerably if they are taught to use a hearing aid by someone who is well trained in the fitting of such aids. In some cases surgery has been found to be effective in minimizing their hearing loss. In any case, parents should be advised not to consider the use of amplification or hearing aid unless it can be fitted properly and unless someone expertly trained is available to teach the child how to use that aid effectively.

These children, together with many who are deafened, may be taught in the public schools provided an expert teacher is available. They must learn to compensate for their inability to hear well by learning to read lips and facial expressions and gestures, they must learn to control their voices and articulation, and they must learn to use visual and kinesthetic stimuli for many experiences which the normal child picks up through his auditory senses.

Since at least 1.5 per cent of the school population falls into the category of being auditorally handicapped, any school with between 500 and 600 children should screen its students carefully in order to ascertain the number available for starting a class for deaf and hard-of-hearing children. Since these classes include not more than 8 or 10 children, it is quite conceivable that even some smaller schools may have enough children to justify starting a class. Regardless of the number of students available, however, no class should be started without a well-trained teacher and proper equipment and materials. Competent medical and psychological help should also be available.

Probably the greatest service a regular classroom teacher can provide for deaf and deafened children is detection. An audiometric examination is best, but inattentive behavior, misunderstanding of directions, lack of vocal inflection, and careful watching of the speaker's face can be clues to defective hearing. In the absence of regular hearing examinations with an audiometer, the teacher may use a **whisper test**.

For the whisper test, the child should stand 20 feet in front of the teacher, facing away. He should be instructed to plug one ear with his finger. The teacher then whispers words and numbers. If the child cannot repeat them, the teacher should move closer until the child can repeat the whispered words. The procedure is repeated for his other ear. In a modification of this procedure the teacher clicks two coms together an arbitrary number of times. The child must correctly report the number of clicks.

Hearing efficiency is expressed as a ratio. For example, if the child must be within 15 feet of the teacher to hear what the normal child can hear at 20 feet his hearing efficiency is $15/20$ or 75 per cent. Any child whose hearing efficiency is 60 per cent or poorer should be referred to a hearing specialist for more precise measurement.

With present knowledge, no provision made by a classroom teacher for deaf or deafened children will be adequate. Expert help is a **necessity**.

A teacher can help children who are hard of hearing if he is

careful to speak clearly (not loudly), face them, double check his instructions, seat them near him, and make sure that his face is never shadowed. These provisions give the children a chance to use whatever hearing they have to the best advantage and allow for maximum visual or lip-reading cues.

The most important service a teacher can render children with hearing disabilities is to refer all suspected cases to competent authority. Medical examinations may be obtained from local physicians; however, often only state colleges and universities have equipment and personnel for giving adequate hearing evaluations. A teacher can usually obtain an appointment with the director of the college speech and hearing clinic, and the child will be examined free of charge. Quite often local mental health clinics provide such services also.

Children with Orthopedic and Other Physical Handicaps

It is generally acknowledged that about 1 per cent of the school population may be classified as physically handicapped, but the category lacks clarity and really serves as "catch-all" for children with many different kinds of disabilities. It encompasses those with handicaps resulting from infectious diseases such as polio and tuberculosis, motor disabilities such as those resulting from cerebral palsy, cardiac cases, children born with crippling conditions such as club foot, and children with glandular disturbances or epilepsy.

Although classes for crippled children have been frequent in the past, more recently there has been an emphasis on delaying the establishment of special classes for children with orthopedic and other physical handicaps until it has been definitely ascertained that other arrangements are not better. For example, central hospitals are available in some areas for treating the severely crippled. Visiting teachers may work at home with children who are severe cardiac cases or who for some other reason are not able to leave their beds in order to come to school. Two-way telephone systems have been set up to allow a child to remain at home in his own bed while he carries on his regular class work with the other children in his own grade. It is probably wise for the school not to attempt to start

a class for physically handicapped children until after it has been accurately determined that a class is needed, or that the children cannot be better served by other methods available in the community.

With increased use of drugs for the control of epilepsy, the seizures can usually be almost entirely controlled and, provided an epileptic child is under the care of a competent physician, there is no reason why he cannot be included in the regular class with other children of his own ability. In the rare cases when seizures occur, the teacher can demonstrate to the rest of the class how to help protect the child from harm. For example, during the threshing which accompanies a seizure, the teacher should be sure that all furniture is far enough away from the child so he will not injure himself by knocking into it. If the furniture is too heavy to move, the child may be carried to an open space on the floor where no obstructions are present. Second, since the convulsion cannot be stopped, the teacher should demonstrate to the other children in the class that a soft cloth or rubber tube placed between the teeth of the child will prevent damage to his teeth and tongue. Third, the teacher can explain epilepsy as an illness which should not be ridiculed.

If a crippled child is within the normal range of intelligence, the problem becomes one of ambulation rather than curriculum. This means that perhaps provision for a special desk and transportation both to and in school will be required, but that the child will be able to do the work of his peers. A regular classroom teacher can make these arrangements through local service clubs, such as the Lions, Kiwanis or Rotary, state societies for crippled children, or state departments of public instruction.

If a crippled child is included in the regular classroom some adjustments will usually be necessary. Equipment needs may be met in a manner described above. However, the crucial problem with these youngsters may be emotional rather than physical. These children often perceive themselves as inferior to other children, and therefore some use their handicaps to escape responsibilities. A wise teacher will treat the handicap in an understanding manner, encouraging the child to be as independent as possible in his behavior.

For example, it is easy to hold a door open so that a wheel chair patient can go in or out easily. It may be better, however, to let him struggle with the problem of negotiating doors by himself. This may seem heartless, but the child needs to learn to have confidence in himself. This can come from the successful completion of difficult tasks; no one should deprive him of these opportunities to learn self-confidence. The crippling condition is a handicap to the child, but it should not be allowed to abet social crippling.

Self-perception and Adjustment

The specific disabilities of each exceptional child require specific methods for helping him make the most of his abilities. Common to all exceptional children is the fact that unless the children are discovered, maximum individualization of instruction cannot occur. Every school system should have a systematic examination program which would reach each child each year with:

1. A thorough physical and dental examination;
2. Tests of intelligence and achievement;
3. Tests of vision, hearing, and speech;
4. Appraisal of the pupil's adjustment.

In the absence of a school-wide testing program each teacher must accept the responsibility for examining each child in his room. This is the first and most important step in providing for all the needs of all of the children. Once the identification has been accomplished the teacher is faced with the task of providing a school environment which is conducive to each child's maximum development.

One persistent problem which needs discussion is the child's perception of his status as a deviant. This problem is common to all deviants, but the degree of its seriousness depends on two things: first, the child's interpretation of the way others react to him, and second, the breadth of activities in which he can participate successfully.

The development of a child's view of himself depends largely

upon his interpretation of the manner in which people react to him. If he is treated in a friendly way, he is likely to think of himself as a friendly person. If his behavior is accepted by others, he is likely to engage in similar behavior on other occasions. Unfortunately, this self-perception is colored by many things and it is developmental and changing. The immaturity of young minds and lack of experience may cause misinterpretations. So, too, does the child's judgment as to whether his needs are being met or thwarted, and whether the frustration is deliberate or accidental.

In the course of the development of a self-image, each person becomes aware of certain deficiencies in his prowesses. The degree to which these incapacities are perceived as serious depends upon compensations which can be made and the importance attached to having certain abilities. For example, a child with a club foot may easily do academic work required of him in school. He may also compete well in physical activities except those requiring agility in running or jumping. Yet if this youngster thinks it important to be a "running" athlete, he may view his club foot as a terrible handicap.

Children are brutally realistic. They perform naturally the tasks which they face, usually without a malicious intent to humiliate less skillful peers. A child who is handicapped can expect no competitive allowance to be made for his disabilities. He performs as well as he can and rates second, third, fourth, or last. His failures are neither cushioned nor excused.

By the time a youngster with a handicap appears in school, he has already had six or seven years of interpreting the reaction of other people toward him and in assessing his own abilities in competition. If he has been well treated and if he has been able to find activities in which he was successful despite his handicap, there is every possibility of good adjustment. The broader the base of personal values, the greater the chance that he will not be too concerned over his inability in a particular skill area, and the greater the probability of successful participation in other activities. For the same reason, the less often the youngster has been forced into a competitive situation in which his handicap has been a liability, the better will be his chance of learning to tolerate it.

The school, then, faces two major tasks: first, it must seek ways

in which to convince the youngster who has a handicap that he is a valuable member of the group, and second, it must provide for participation in activities which are difficult and demand effort and skill, but which are of such variety that each child may be successful at something. Each child will therefore find he is both accepted and successful.

Special class placements can give exceptional children the opportunity to develop their abilities to the maximum; but more important, the classes can—and should—provide an environment for the development of realistic goals. If the youngster with a club foot can be placed with other physically handicapped children, he may soon realize that he has no need to be a running star to be accepted by his classmates. Thoughtfulness, cooperation, integrity, effort, and cheerfulness, if rewarded by the group, become more important attributes than running skills. This means of providing exceptional youngsters with an environment conducive to the establishing of broad goals applies equally well to intellectual deviates, speech cases, deaf and hard of hearing children, and youngsters who are blind and partially sighted, as well as to those who show educational and social disturbance. The discovery of activities in which their handicaps are seen as lack of assets rather than liabilities helps keep the children from devaluating themselves unduly. A mentally handicapped youngster who can adopt the attitude "I do not learn school subjects as quickly or as well as the other kids, but I am just as dependable, kind, and cheerful and am therefore as valuable a member of the community" would exemplify this kind of value. To him, limited mental ability is seen as a lack of an asset; it is not perceived as a liability.

In the absence of a special class, the teacher in the regular classroom faces the problem of helping the exceptional child learn to accept himself as he is and make the most of what he has. Unfortunately, when the child with a handicap has only nonhandicapped peers to compare himself with, the teacher's task is a complicated one. The goals—wholesome self-worth and successful accomplishment—are the same, but their achievement is more difficult. The child's level of aspiration is set by what children who are nonhandicapped can do; he appears inferior in his own eyes. The teacher must

therefore constantly seek opportunities to reward the child for doing the best he can. But children are perceptive; inferior performance is recognized as inferior performance and no amount of praise for effort substitutes adequately for lack of success.

The suggestions in Chapter 19 on Guidance are pertinent to this problem. They provide techniques which a teacher can use to help children with handicaps learn to develop wholesome concepts of self. However, special class placement provides both adjusted curricula and selective competition not readily available in the regular classroom. This fact has been used as a most convincing argument for starting classes for children who have handicaps.

SUGGESTED READINGS

- Blair, Glenn, *Diagnostic and Remedial Teaching in the Secondary Schools*. New York, N. Y.: The Macmillan Co., 1946. The section on remediation techniques has good suggestions for teachers in general.
- Hathaway, W., *Education and Health of the Partially Seeing Child* (ed. 3). New York, N. Y.: Columbia University Press, 1954. Chapters 4, 5, 12, 13, and 14 are especially helpful on organization, methods, and equipment.
- Johnson, Wendell, et al., *Speech Handicapped School Children*. New York, N. Y.: Harper & Brothers, 1948. Chapter III, on articulation disorders, should be very helpful to the teacher.
- Kirk, S. A., *Teaching Reading to Slow Learning Children*. Boston, Mass.: Houghton Mifflin Co., 1940. Chapter 4 has a step-by-step outline of a method of beginning reading instruction.
- Kirk, Samuel A., and Johnson, G. Orville, *Educating the Retarded Child*. Boston, Mass.: Houghton Mifflin Co., 1951. Chapter 12 deals with teaching reading, writing, and spelling.
- Redl, Fritz, and Wineman, David, *Controls from Within*. Glencoe, Ill.: The Free Press, 1952. Chapter 3 deals with effective behavior control. It offers many good suggestions for handling discipline problems.
- Strauss, A. A., and Lehtinen, L. E., *Psychopathology and Education of the Brain-Injured Child; Vol. I: Fundamentals and Treatment*. New York, N. Y.: Grune and Stratton, Inc., 1947. The last section covers teaching techniques which may be used by the teacher.
- Streng, Alice, et al., *Hearing Therapy for Children*. New York, N. Y.:

Grune and Stratton, Inc., 1955. Chapters 6, 7, and 8 are devoted to the educational provisions for children with hearing loss.

Worcester, D. A., *The Education of Children of Above-Average Mentality*. Lincoln, Neb.: The University of Nebraska Press, 1955. Discusses some new methods of enrichment and a unique approach to acceleration.

SUGGESTED FILM

Special Education Programs for all Exceptional Children (one reel), University of Illinois Audiovisual Aids, Urbana, Illinois. Shows programs for all exceptional children with emphasis on the unique needs of each type of exceptional child.

Guidance

FROM TIME TO TIME everyone faces problems that he believes he cannot solve by himself. Frequently he feels this way because he has lost or apparently been deserted by those who are dear to him, or because—in reality or in his imagination—he is unable to cope with the tasks confronting him, or because he faces an apparently insoluble dilemma. Even after coping with these problems many times adults are still frustrated by some of them. We can therefore readily understand why children need assistance with these problems—many of which they meet for the first time while attending elementary school. In addition to helping the child solve his immediate problems, guidance should help him to appreciate his needs, interests, abilities, and aptitudes; the forces within himself and his environment which have contributed to his problems; and the ways in which he can use this knowledge and experience in solving future problems.

Guidance focuses attention on the individual pupil. Even when a group of pupils is involved in a guidance experience, it is an intimate, personal relationship in which each pupil's problem receives individual attention. And this is what it must be, for even when several children each give a problem the same name, it usually involves many elements that are peculiar to each individual in *his*

psychological setting. Problems are unique to the pupil facing them, consequently they must be studied in terms of the individual's own personal history. (Techniques which may be used to do this were described in Chapters 3 and 4.) The attitude which the child has toward life—the way he sees himself, how he feels toward others, and the kind of person he has learned to be prior to seeking assistance from a teacher or counselor—has been learned over a period of years. Not only have these aspects of his personality helped to create the problem but they also will determine how he will attack it.

Alex and Clara, for example, were dissatisfied with their achievement in fifth-grade arithmetic; both disliked arithmetic and both were capable of doing much better work, yet their reasons for doing poorly were quite different.

An examination of the cumulative record revealed that Alex should perform slightly better than most elementary pupils (California Text of Mental Maturity IQ of 114); all his scores on the standardized achievement test which were given in September were fifth-grade level or above (except arithmetic which was 3-3); and his parents seemed to be interested in him and his welfare. Careful observation of Alex over a period of several days by his teacher revealed that he seemed to understand the work and that he was anxious to do well, but that he made all kinds of little mistakes, and consequently he usually got the wrong answers. A conference with Alex's mother revealed that his father was a successful engineer and his brother (twelve years his senior) a graduate student in mathematics, and that neither could accept the level at which Alex performed in arithmetic. Apparently they had become concerned about his work in arithmetic even when he was a third grader and doing as well as he should. Though they loved him and wanted to help him, they put so much pressure on him that he could not do even what he was capable of doing—a level of performance considerably below the older brother's and considerably below what they had hoped for. When the mother understood what was happening she was able to help take the pressure off. Soon Alex's performance improved.

Clara, on the other hand, performed badly for quite different reasons. In her case the teacher discovered that her father was a construction laborer who had to move periodically. Part of her trouble with arithmetic could be accounted for by her changes of teachers and schools. Another and perhaps even more important factor was her perception of her ability to learn arithmetic; she did not believe she could do well in it because her mother had said, "Guess you're like me and my mother before me—none of us were

good in arithmetic. Pick up what you can and don't let it worry you." But it did worry Clara because she wanted to do well in everything (and she had a right to believe that she could do so: she had an Otis Self-Administering Test of Mental Ability IQ of 132 and a California Test of Mental Maturity IQ of 124). Competent diagnosis of Clara's learning problems in arithmetic, appropriate remedial work accompanied with successful performance, and the teacher's confidence in her ability to do the work produced substantial improvement. These experiences, and especially her success in doing the work, changed her perception of her ability to do arithmetic.

It, therefore, the elementary school pupil is to be helped he must understand why he feels as he does, believe that he can be helped, want to be helped, and realize that the important adults in his life, such as parents and teachers, are willing to do what they can to help him achieve the desired changes. Even when these conditions are satisfied, adults should not expect the child's behavior to improve immediately. New habits of living and new perceptions of self cannot easily be substituted for old ones. In fact, some children's behavior will get worse before it gets better. Frequently, this happens when therapy is obtained for the shy, withdrawn child; as he achieves new insights and wants to test his new self-perceptions, he often misbehaves.

The Teacher's Role in Guidance

Every teacher, and especially every elementary-school teacher, can play an important role in the guidance program. From his many and varied contacts with his pupils he has an opportunity to get to know his pupils very well. In the classroom he sees how each child performs in the various school subjects, how he plans his work, how efficiently he uses his time, and how effectively he works with his classmates. In the library and from a child's comments about the books he reads, the teacher can discover many things about his interests and hobbies. On the playground, in the gymnasium, and in the halls, he can discover some of each child's other special interests and abilities, how each relates to his classmates in informal situations, how much responsibility each can assume in managing

his own behavior, what leadership and member roles each plays, and to whom each turns for leadership in various situations. From his contacts with children in the lunchrooms and in conferences with them and their parents, he often learns about a child's eating habits, his health habits, and his general health status. From these conferences with children and their parents the teacher also may learn about a child's home life, what he does outside school, the experiences which have made him happy and the ones which have worried him or made him unhappy. Finally, he can use the techniques described in Chapters 3 and 4 both to appraise growth and to obtain the necessary facts for guiding individual children.

Even the teacher who prefers to teach only subject matter soon learns that he cannot ignore the problems which the child brings to school. To the extent that the teacher takes cognizance of the child's problems and tries to help him solve them he is a guidance worker.

The degree to which a teacher can accept and understand each pupil and communicate this interest to them is an important factor in their social, emotional, and intellectual development. His many and varied contacts not only enable him to get to know his pupils so that he can share his findings with fellow teachers and specialists when their assistance is needed, but also enable him to use what he learns in his day-to-day work. On the other hand, when pupils feel that their teacher either rejects or misunderstands them, these same daily contacts can become a major disturbing force in the pupils' lives.

So far we have discussed two important guidance functions of the classroom teacher: maintaining a wholesome climate within his classroom, and observing, interpreting, and reporting on pupil behavior and growth. Other ways in which the teacher may contribute to the guidance program are described below.

Private Conferences with Pupils

Usually when a child has a problem the teacher can help by giving him a chance to talk. Talking releases tension, helps him understand better the forces which disturb him, and convinces him that his teacher is interested in him. Some do not know how to

help their pupils talk about their problems. To the degree that the teacher can listen attentively and accept a pupil as he is, with all his strengths and weaknesses, he will be able to help that pupil understand and accept himself and the others around him and to discover why he feels as he does.

The teacher can do several things besides trying to accept the child as he is and listening attentively: (1) He can pay attention to how the child feels and help him tell about it. (2) When the child seems to have trouble talking, the teacher can help him discuss why he finds it difficult to discuss certain topics. (3) He can try not to minimize the importance of any topic which the child feels he needs to discuss. (4) He can try to avoid giving advice.

Before a pupil can talk freely to a teacher about his feelings he must believe that it is appropriate for him to talk frankly about any person or topic and that he can trust the teacher with his private thoughts. Though it helps to tell the pupil that he can talk about anyone or anything, the teacher's ability to reflect what the child really feels and his reputation for keeping confidences tend to be even more important. To reflect what the pupil feels and help him talk about it, the teacher must listen attentively to what the pupil says and observe carefully what he does. He also should allow the pupil adequate time to say what he has to say. (Talking too much and talking at the wrong time are two common mistakes which both teachers and counselors make.) Unless the teacher is uncertain as to whether he understands what the child is trying to say, it is best to remain silent. If, however, he feels that he must say something, he may say "M hm" to let the child know that he understands how the child feels. When he is not sure whether or not he understands how the pupil feels, he can check whether or not he has captured the feelings expressed by the pupil with such comments as "You mean you don't like . . ." or "You are worried about . . ." or "You wish that . . ."

In other words, the teacher's primary purpose in the private conference is to help the pupil express and clarify his feelings. The pupil soon discovers that in such a permissive and understanding relationship, he can talk about both his positive and his negative feelings. When he is able to make these feelings meaningful to the

teacher, the pupil comes to understand himself better than he did previously, and consequently he becomes increasingly better prepared to decide what he can do to improve his own adjustment. As the teacher becomes more proficient in listening to pupils' problems, his comments tend to focus more on statements whose meaning is unclear than on areas he feels the child has not discussed sufficiently.

There are several reasons why teachers should not ask probing questions: (1) Though the pupil's story may appear to be incomplete (and although the teacher may be curious to know how it ended), the pupil may have clarified his feelings sufficiently to solve his problem; further exploration of that issue may therefore be irrelevant so far as the pupil is concerned. (2) Probing into a pupil's story may uncover problems which the pupil cannot handle or does not wish to explore. In the first case, he would be hurt by the probing questions. Since the teacher is not a trained psychiatrist, or counseling psychologist, he would do well to let the pupil decide how deeply he digs into his private life. The teacher should try to follow what the pupil says rather than probe, asking questions only when he is unsure of the pupil's meaning.

Just as a teacher must listen carefully to detect feelings which the child needs to discuss,¹ so he must watch for the cues which suggest that the pupil wants to talk privately with his teacher. For example, some come to school early, stay late, or ask permission to bring their lunch and eat with the teacher. Others request help with their school work as an excuse to have a private conference. A few even misbehave to attract the teacher's attention.

Whenever the teacher detects that a child wants a private conference he should respond to that feeling. For example, he may make a suggestion such as, "Should we go over in that corner of the room where we can talk by ourselves while the rest do their arithmetic?" If, on the other hand, he cannot talk with the child immediately he should set aside a specific time for a later conference. Furthermore, it is always a good idea for the teacher to tell his

¹ See Chapters 4 and 5 in Arbuckle, *Guidance and Counseling in the Classroom*, and Chapters 12 and 13 in Ohlsen, *Guidance: An Introduction*, both listed in "Suggested Readings."

pupils that it is appropriate for them to request private conferences. Usually this encourages some pupils to request a conference rather than to use devious means of revealing the need for help.

Even when the pupil realizes that the teacher has set aside time for him to discuss the problems of his choice, there are occasions when he cannot talk easily. Several factors may account for this: he may want to express feelings of which he is ashamed, he may want to discuss some topic which is so personal that he cannot discuss it or he may not be completely sure that he cares to share the problem with anyone. Helping the pupil explain why he finds it difficult to talk about such problems proves to him that he can discuss them and tends to relieve some of his tensions. Anyway, it usually is easier for the child to explain why he finds it difficult to discuss a topic than it is to discuss the topic itself. Frequently, a comment such as: "Sometimes it is pretty hard to talk about some things—especially when we want to say something mean about someone we are supposed to like," makes the pupil feel that his teacher understands why he feels as he does, and therefore makes it easier for the pupil to express his feelings.

Though it appears to make sense at the moment, a common mistake by the teacher on such occasions is to try to reassure the troubled pupil with a comment such as, "Don't let that worry you; everything will work out all right in a couple of days." The teacher may be right that the child's problem is a relatively simple one which he will have solved or forgotten in a couple of days. Nevertheless, such reassurance tends not to produce the desired results; usually the child is not convinced that the problem is a relatively simple one which he can handle. Instead he concludes that the teacher either does not understand him or is not really interested in talking with him about his problem. Thus, the teacher's effort to reassure the child by minimizing the seriousness of the problem usually fails.

The fact that the child seeks assistance demonstrates that from his point of view the problem is a serious one. If instead of reassuring the child, the teacher helps the pupil tell his story, he will discover why the problem is a serious one for the child. He also

will be in a better position to decide whether the problem is one with which the child can cope or whether the parents' aid or a specialist's assistance or both may be needed.

Finally, why should we give the child advice? To the degree that he is mature enough to communicate his feelings, he can be helped by talking about his problems. The teacher either may help the child obtain the information that he needs about himself and the situation to make an independent decision or he may tell him what to do and thereby encourage him to become dependent on the teacher. Even the young child should be helped to discover for himself, insofar as he can, what the situation is and what he can do about it. Moreover, it is very unlikely that any teacher can give a child a solution which the child can fully understand and accept, and when the child fails in attempting to follow the teacher's advice, the teacher is responsible for the failure.

Sociodrama

Another guidance technique which the teacher can use is sociodrama. Sociodrama provides pupils with an opportunity to act out as well as talk out their problems.

For example, Robert, a second grader, was beaten up by Mike, a fifth grader, during the lunch period. After helping Robert clean up, Miss Pickens suggested that perhaps the class could help Robert figure out how to cope with Mike. Since Mike had been picking on several of the small boys in the neighborhood, this idea appealed to the pupils. They set the stage for the sociodrama by having Robert describe what happened during the incident. Then members of the class volunteered for the various roles; several children volunteered for their own roles. The others in the scene were briefed by Robert. Finally, Miss Pickens pointed out that though they should try to re-enact what happened, they should not worry about saying precisely what was said before—instead they should try to say and act as they felt their characters would. When Miss Pickens thought they had gone far enough into the scene to help Robert, she interrupted and asked Robert to tell what he could have done differently and suggested that he ask questions about the issues which concerned him. Then she gave the other players a chance to comment on how they felt about what happened and to make suggestions to Robert. Finally, she gave the rest of the group a chance to express their feel-

ings about the scene and to offer Robert suggestions. Not only did Robert get many good suggestions for dealing with Mike, but all of them obtained ideas for coping with bullies.

Miss Douglas, a fourth-grade teacher, used sociodrama to enlist her pupils' aid in helping a new child make friends in school. She knew that a new girl was coming into her room the next day and that Billy, a boy who had been in the room only a few weeks, had had trouble making friends. After she announced that a new girl would join their class the next day, she suggested that they act out what they could do to help her get acquainted. Billy asked whether it would be all right to pretend that the new pupil was a boy instead of a girl. Since everyone accepted that idea Billy was asked to describe a scene in which a new pupil needed help. After they acted out the scene and made suggestions to Billy, they explored what different types of things they could do to help the new girl.

"Sociodrama is an intensive, vivid, living through of experiences of common concern to the group members—experiences which may have been cut short in life and blocked from full expression, leaving unresolved buried emotional impact. The process aids the individual in mobilizing his resources for behaving spontaneously and discovering his potentialities of expression."² It differs from "playing house" or "playing school" in that it is an organized effort to teach pupils how to cope with specific problem situations. It provides the pupil who requests assistance with an opportunity to relive problem situations, to release pent-up emotions, to test new ideas he has for attacking the problem, and to obtain his classmate's and teacher's suggestions for coping with the problem. In fact, when he describes a situation and the people in it, tells how he feels and how he thinks they feel, directs and participates in the scene, and listens to his classmates' reactions, he improves his understanding of himself as well as of the situation.

The teacher who elects to use sociodrama should keep the following points in mind:

1. Before he encourages a pupil to act out a problem scene, he should ask himself whether he is qualified to help the pupil with the problem, whether the pupil would feel right about sharing the problem with the group, and whether he believes the group will

² Helen H. Jennings, "Sociodrama as Educative Process," Chapter 16 in *Fostering Mental Health in Our Schools*, Washington, D. C.: Association for Supervision and Curriculum Development, N.E.A., 1950, p. 260.

be able to help the pupil. Frequently, it is desirable for the teacher to discuss these last two points with the pupil in a private conference.

2. The pupil who requests assistance should describe the problem, the persons involved, and the roles which each played, and function as director in setting the stage for acting out the scene (that is to say, in describing the psychological setting in which the problem arose). Furthermore, pupils, both players and audience, should be given an opportunity to ask any questions which they have about the situation. Obviously, each role player must understand his part.

3. Once each player understands his character's role, he tries to live that role—expressing the feelings which he believes that person would express as the scene unfolds, but not making any real effort to use the same words that his character used.

4. While the scene is being acted out the teacher helps individuals express the feelings which they seem to have trouble expressing by themselves. In other words, they play parts in an impromptu play where each player makes up his own lines to fit the character and the psychological setting.

5. After the scene has been played the teacher gives the pupil who requested help a chance to speak first—expressing his reactions to the scene played and asking his questions. Then the teacher gives the players and after them the nonplayers a chance to ask questions and make suggestions.

Remedial Instruction

Though the teacher should encourage each pupil to seek assistance with his school work when he needs it and should permit pupils to help each other, he also should try to teach pupils to become independent learners. He should teach each pupil to proceed as far as he can on his own, and when he has difficulty should involve him as much as possible in diagnosing the source of the difficulty. If, for example, a pupil has difficulty with an arithmetic problem it is better to have him start over again and retrace his steps (chalk-talking or thinking out loud as he works), looking for the

source of the difficulty, than for the teacher to do the problem for him.

Of course, all this takes time, and most elementary school teachers will not be able to give individual assistance to every pupil who needs it. Since frequently several children need assistance with the same learning problem, he can work with all of them at one time—letting one go as far as he can (thinking out loud as he works) and others take over from there. In addition to providing remedial instruction, such experiences tend to teach children the difference between “doing the work for a classmate” and “showing him how to do it,” and, as we suggested in Chapter 1, pupil assistants can be a great help in providing remedial instruction.

Helping Children Satisfy Their Needs

Probably the elementary teacher's most important guidance responsibility is to help his pupils *understand and satisfy* their basic needs.³ At the same time he should avoid teaching practices which interfere with the child's ability to satisfy these needs. Though *essential physical requirements* include adequate diet, clothing, housing, rest, activity, health care, and sex satisfaction, we shall draw our example from planning activities to achieve a balance of rest and activity. Even when activities are well planned the teacher must watch for behavior which suggests that the activity should be shifted to a more or less active one. For example, teachers often restrict activity to punish a child for doing something which never would have happened had the teacher recognized the child's need for activity; thus he creates further problems by blocking satisfaction of the need.

Understanding Physical and Emotional Changes. Elementary-school pupils ask many questions about the things they observe in themselves and in others whose love and recognition they seek. The

³ Ohlsen defined these needs as follows (Merle M. Ohlsen, *Guidance: An Introduction*, New York, N. Y.: Harcourt, Brace and Co., 1955, Chapter 2): “(1) essential physical requirements; (2) understanding physical and emotional changes; (3) self-acceptance; (4) acceptance, understanding, and love from others; (5) recognition from others; (6) understanding of responsibility to others; (7) development of independence; (8) freedom from feelings of fear and guilt; and (9) ability to face reality.”

teacher should try to help each pupil obtain answers for his questions. When the teacher lacks adequate information to answer the child's questions or feels uncomfortable talking on the topic involved, he should seek help from a colleague to obtain the information or to plan for discussion of the issue with the child. Failure to seek assistance in such instances usually results in the teacher making one of four common mistakes: (1) he gives the child accurate information, but fails to adapt the information to the child's maturity and readiness to use it; (2) he fails to obtain the facts and gives inaccurate information; (3) because of his embarrassment, he makes the child feel rejected; or (4) he rejects the child's request for information.

If the child has difficulty *accepting himself*, the teacher should remember that ever since the child first tried to communicate with others, he has been building his own self-image. If most of his experiences with those who are closest to him (parents, relatives, friends, and teachers) lead him to believe that they love and accept him as he is, with all his strengths and weaknesses, he will accept himself as a good person. On the other hand, when a teacher expects too much and causes a child to fail, or too little and fails to recognize his real ability, fails to help him make friends, and fails to accept him as a person, he tends to cause the child to wonder whether he is a good person.

In the previous paragraph we suggested that *acceptance, understanding, and love from others* is a prerequisite for self-acceptance. However, telling the child that he is loved and accepted is not sufficient—he must discover this for himself through the way he is treated. Though it may be unrealistic to expect a teacher to love every child, he should try to accept each and be willing to help each when he needs assistance. If, on the other hand, he cannot accept a child, there is little point in pretending that he does. Sometimes a teacher will do the cruelest little things while pretending to love a child. (For example, he may pretend to like a child and hurt him with a statement such as, "Too bad you can't do better in arithmetic. You're such a nice boy, and I enjoy helping you." Another mean little trick is to exhibit some of the child's poorer work—

especially when the teacher knows that friends and relatives will be visiting school.) Because everything seems to be all right, the child has difficulty diagnosing the situation and coping with such subtle rejection.

In helping children *understand their responsibilities to others*, every teacher has many opportunities to give pupils experiences in helping others (such as helping someone with his school work or even taking books and messages to classmates who are ill) and to lead them to discover how someone feels when a friend fails to recognize his responsibilities to them. Moreover, many teachers have discipline problems because they have failed to define limits which the pupils understand and accept. As we said in Chapters 1 and 2, these goals are best achieved under democratic leadership.

On the other hand many teachers enjoy the attention they receive from dependent children. These teachers must take care lest their own needs interfere with their teaching children to make decisions and do things for themselves. Those who wish to teach children to be *independent* give them opportunities to make decisions on issues which govern their daily activities. Furthermore, it is important that dependent children associate success with independent action and that they are not made to feel rejected as persons when they disagree with their teacher. Since children need to learn how to do things by and for themselves as well as with and for others, neither must be taught at the expense of the other.

Unfortunately, some adults deliberately create *fears and guilt feelings* to enforce limits on children's behavior. Teachers who use these psychological clubs make comments such as: "You should see what the principal did to the last pupil I caught doing that" or "If you really liked me you couldn't do a thing like that." In contrast to this, good teachers help their pupils describe their fears and try to help them make positive associations with things they fear without cause. Obviously, children need to learn how to avoid danger.

Ability to face reality is a symbol of good adjustment which a child should learn from those close to him. Parents and teachers should help him distinguish between phantasy and reality without

embarrassing him; better still, he should observe it in their behavior. When, for example, a child observes his teacher telling "white lies" to the principal, he has difficulty understanding why he should be punished for inaccurate reporting on a playground incident.

Referrals

The teacher is a key figure in every good guidance program—even when qualified specialists are employed by the schools. We have already pointed out that he can provide many important guidance services; and has been suggested in Chapters 3, 4, and 18 he can spot the early symptoms which suggest the need for medical care, counseling by a specialist, and remedial instruction, as well as identify the gifted and talented pupils.

Important as it is to identify these children, this in and of itself is not sufficient. When special services are needed they must be obtained for the child. Where this requires a referral, the teacher must know how and where the services can be secured and must be sufficiently familiar with the nature of the services to describe them and answer parents' and pupils' questions about them. School personnel, community agencies, and organizations from which the teacher can obtain the necessary information about these services are described in the section on "Emotionally Disturbed Pupils" in Chapter 2 and even more fully in Chapter 18.

Teacher Readiness to Participate

In almost every school system there are some teachers who do not recognize and accept their guidance responsibilities. Some are doing a good job without knowing it, but they believe that participation in the program would require both additional time and new professional skills which they cannot learn on the job. Others, who recognize that they are contributing to the guidance program, tend not to exhibit much interest in the program because they do not believe that they can devote any more time to it. Still others would like to participate, but question their ability to make a worthwhile contribution. Finally, there are a few who are not sufficiently

interested in their pupils to bother. Except for those in the last category, the principal can aid the teachers by helping them determine what guidance services they may provide, by helping them improve their guidance competencies, and by arranging for them to help each other in cooperative study of their pupils.¹ They also may be shown how improving their understanding of their pupils may actually save time for them in the long run. Even some of those who fall into the last category will become more interested in their pupils when they reap personal satisfaction from observing children's behavior improve as a result of their efforts. Since teachers who are not guidance-minded will not accept guidance principles and try to apply them until they are willing to try new practices and feel secure in doing so, the staff must be patient with those who are indifferent, involve them in the program whenever they can, recognize good service, and provide in-service education when they can accept it.

The Specialist's Role in Guidance

In addition to the school nurse and school doctor, there are four other specialists who can offer substantial assistance to the elementary school teacher and his pupils: (1) the remedial teacher, who should be competent in diagnosing and treating reading cases, in aiding with study skills, and in helping pupils cope with problems in other school subjects; (2) the school psychologist, who should be able to help teachers appraise social and emotional adjustment, appraise school progress and intellectual growth, and make decisions on school placement (see, for example, pages 594 to 610, of Chapter 18); (3) the school counselor, who should be able to counsel pupils and help teachers appraise pupils' school progress, intellectual growth, social development, and emotional adjustment; and (4) the school social worker, who should be able to work with pupils and parents on family problems, interpret the school program to parents, and explain how forces outside the school are affecting a child's school adjustment. In other words, all four should be professionally quali-

¹ One technique for doing this is described later in this chapter under the topic title of "The Guidance Committee."

fied to help the teacher recognize and understand a child's basic needs. In addition to this, each can make a special contribution to the pupils' school adjustment and to helping teachers understand the pupils they teach.

Adequate professional education is essential, and successful elementary-school teaching experience is desirable for all four of these specialists. However, a specialist can meet the professional qualifications and still fail. Teachers can profit most from these services only when they believe that the specialist is approachable, that he understands the problems which they encounter in the classroom, that he understands why they act and feel as they do in specific situations, and that he respects them as specialists in their own right. To achieve this relationship the specialist must define clearly the services that he can provide, recognize his professional limitations, enlist teachers' assistance in studying pupils' behavior, and encourage teachers to participate in developing guidance policies for the school.

The Guidance Committee

The guidance committee is a building-level committee appointed by the principal to help teachers understand their pupils and learn to work with them more effectively. Usually, as a result of their experiences in studying pupils' problems, they also make suggestions for improving guidance policies and services. The membership should include several teachers, any guidance specialists who are assigned to the school, and the principal.

When a teacher wants assistance in studying a child, he requests the committee chairman to put the child's name on the agenda and gives him the names of other staff members who know the pupil well. The chairman, in turn, invites all these staff members to meet with the committee on one of its regular meeting dates. Of course, uninvited staff members also should be made to feel that they are welcome whenever they wish to attend.

Although teachers are busy, most of those who are invited soon come to feel that their assistance is needed when the committee is

helping a teacher decide how he can assist a child; most of them will therefore make a special effort to attend these meetings. This is especially true when the guidance chairman believes and conveys the impression that attendance is truly voluntary but that everyone who is invited is needed to provide assistance for the teacher and his pupil.

When the teacher appears before the committee he is given a chance to describe the child and the problems which the teacher has noted. Then the chairman gives the other invited members a chance to describe the child as each of them perceive him—each successive speaker adding only new information and or pointing out where his perceptions differed from previous speakers. The members of the committee focus their attention on helping speakers to communicate what they have observed and to describe how they feel about the child. After all the invited members have spoken, either the chairman or a guidance specialist summarizes the information obtained during the conference and relates it to information reported in the child's cumulative folder. Meanwhile, the secretary tries to obtain the information which he will need in order to incorporate the answers to the following questions in his report: (1) What do we know about the child? (2) Upon what positive elements in the child's life can we develop a program to help him? (3) What will each of us do to help the pupil? In other words, the committee's primary responsibility is to conduct case conferences. The permissive atmosphere in which these conferences are conducted enables teachers to share their perception of a child, to accept and discuss their differences in perceptions, and to discover how they can co-operate with each other in helping the child. Usually they discover that no one of them has a complete picture of the child.

Should parents be invited to participate in guidance committee meetings? Although it is important to obtain a picture of the emotional climate in the home and of the parent's perception of the child and his problems, to win the parent's cooperation in helping the child, and to share with parents the staff's perception of the child's school problems, these goals can be achieved more effectively in parent-teacher conferences (or in a specialist's conferences with parents) than by parent participation in guidance committee meet-

ings. The staff's frank discussion of a child's problems and the factors which seem to be creating the problems are quite threatening to some parents. Consequently, they tend to defend their child rather than to help the teachers understand him, and they find it difficult to accept the teachers' suggestions for helping the child. The teachers, in turn, hesitate to talk frankly—both because they do not wish to hurt the parents and because they do not wish to be hurt by them.

The primary advantage of the guidance committee over individual work by teachers is its continuous and cooperative study of children. Other important advantages are: it provides better coordination of the guidance for a particular child; it stimulates better use of school and community guidance resources; it encourages teachers to share information with colleagues and to help each other provide guidance services for pupils; it provides teachers with in-service education in child-study techniques; it encourages the staff to develop a program to meet pupils' needs; and it gives the staff an opportunity to participate in the development of guidance services.

Introducing Guidance Services

Guidance services may be introduced into the schools in many different ways. Perhaps the three most common approaches are: (1) to employ a specialist and let him define his services; (2) to locate a successful program and copy it; and (3) to involve the staff in appraising present services and in improving services to meet pupils' needs. The last of these three approaches usually produces the best results. This approach is especially effective when teachers are given an opportunity to participate in guidance committee meetings and thus to obtain first-hand knowledge of the way in which guidance services can help pupils. In addition to having the advantages of the guidance committee which are described in the previous paragraphs, this approach also enables teachers to make better use of new services as they are added.

As a consequence of their experiences in the guidance committee meetings, teachers soon discover cases which they cannot handle. If no specialists are employed by the school district—and this is the case more often than not—they must then seek aid outside the

school staff. On such occasions the guidance committee can request assistance from the office of the state superintendent of schools or from a nearby college or university which has a good counselor-training program. The guidance consultant who is sent to assist them can help them determine what they can do to aid the child and what they should do to avoid further disturbance of the child, and, if necessary, help them locate personnel to whom he may be referred. When new services are needed, the consultant also can help them define these services and the qualifications they should seek in the person or persons whom they employ. Thus, the staff sees the need for the service, wants it, and knows what to expect from the specialist whom they employ before he is ever employed. Furthermore, such experiences provide the staff with the background which they need to interpret the new services to parents and other interested citizens and to defend the services when critics question their value. If, on the other hand, an incompetent person is employed, they will be critical of his poor services.

A guidance committee can be organized in most schools, provided that care is exercised during the formative stages of the program. The guidance committee will work well in any school in which it has the principal's support and several teachers who are sufficiently interested to serve on the committee. Though more can be accomplished in a school in which there is a well-qualified guidance specialist who can assist the teachers and work with the pupils, the staff need not postpone action on introducing the guidance committee until a specialist is employed by the school district. With this organized attack on child study much can be accomplished without a specialist. Teachers know many things about their pupils which they can share with one another and use more intelligently when they cooperate in aiding pupils.

Once the cooperation of the principal and several members of the staff is assured, the person who is interested in introducing the guidance committee should make arrangements for giving them an opportunity to participate in a case conference of the type described earlier. He may do this by arranging for a meeting to which he invites the principal and the teachers who are interested (and are good prospective committee members). In this meeting he should

try to accomplish the following purposes: (1) describe the guidance committee and to explain how it functions; (2) explain what various participants are expected to do; (3) invite them to participate in a trial run (which also is designed to give them practice in applying their techniques within an accepting group); and (4) ask them to name several pupils who may be used as subjects for trial runs.

After the members of this temporary committee have had a chance to practice child-study techniques and to discover how such cooperative efforts can help their pupils, the committee is ready to share its experiences with the school staff at one of its regular faculty meetings. At such a meeting we recommend that the principal chair the meeting and that the temporary committee serve as a panel. Ample time should be allowed for questions to insure that the entire staff understands precisely what each person does at such meetings, how staff members may request help from the committee, and how the committee's work aids pupils. Someone should point out how guidance committee meetings differ from informal discussion about pupils in which the discussion often degenerate into gossip sessions. Perhaps he also should stress the importance of guarding confidences. The next step is to invite the staff to name one pupil who can be used as a subject for demonstrating how the committee conducts a case conference. Before names are suggested, however, the staff should be urged to *name pupils whom they believe they can help*. If attendance is required at regular faculty meetings, the cause may be helped by permitting voluntary attendance for the meeting in which the committee conducts its demonstration.⁵

Since the rest of the staff suggests the pupil whose case will be used for demonstration purposes, some faculty members who have not previously participated in this cooperative child study approach are introduced to the techniques as participants. After the demonstration these new participants should be given a chance to comment on their experiences during the demonstration. Then the rest of the faculty should be encouraged to make suggestions for helping the child and to ask questions about the technique. In particular the

⁵ When setting the date for the next faculty meeting, the chairman should allow participants adequate time to collect data needed.

principal should make sure that the faculty knows how to avail themselves of the committee's services. He also may wish to encourage the staff to volunteer for committee membership and announce that he will provide each of them with a description of the committee's procedures when he names the committee. Usually most, if not all, the temporary committee is named to the regular committee.

Following the demonstration the principal should interview volunteers for guidance committee membership. Besides assessing their qualifications for the work, he should try to determine whether they really want to serve on the committee. He also should make sure that members understand what they will be expected to do. Usually it is best to have a small committee consisting of three or four teachers, the principal, and any guidance specialists who are assigned to the school. Finally, the principal should try to relieve those who are appointed to the committee from some other special duties.

After the principal has selected committee members, he should arrange an organizational meeting. Besides determining how they will function and when they will meet, they elect a chairman and secretary. Since the principal has many demanding responsibilities which tend to interrupt committee activities when he serves as chairman, we recommend that the committee elect a teacher as chairman. In addition to making a teacher, rather than either principal or specialist, the official spokesman for guidance, this plan has the further advantage of making a teacher responsible for an important school committee.

Like everyone, guidance committee members are encouraged by their success. Therefore, we must re-emphasize the point that the staff should be encouraged to request assistance in helping pupils whom they believe they can help with the resources which are available to them. This does not mean that they should ignore those pupils who need a type of assistance which they are not prepared to give, but it does mean that they should not waste a lot of time—and also run the risk of hurting the child—by trying to help someone whom they are not qualified to help. When they conclude that some

special services are needed which are not offered by the school staff, they recommend a referral and also decide what they can do to avoid further disturbance of the child.

From time to time the committee should select a typical child, a mentally handicapped child, a very bright child, and a child who has some special talent, and study each of them for the purpose of determining what the school is doing for each and what more they can do for each. Perhaps they should conduct these sessions at regular faculty meetings to enable the entire staff to participate.

Organizational details are important, but they are less important than the day-to-day working relationships within the school staff. Only when staff members understand what they may expect from each other, respect each other's judgments, and are willing to assist each other in cooperative study of children's problems can they provide most effective guidance services. Furthermore, the principal must recognize the merits of the program by devoting time to it himself, by seeing that it gets financial support, and by expressing his appreciation to those who give good service.

DISCUSSION QUESTIONS

1. Why do children attack similar problems so differently?
2. What factors seem to interfere with the child's solving his problems?
3. How can a child profit from telling his teacher about his problems?
4. What can a teacher do to make it easier for a child to discuss his problem?
5. Why should a teacher try to help a pupil express and clarify his feelings?
6. Why should a teacher avoid probing questions? How may a teacher's use of such questions hurt pupils?
7. How can a teacher determine when a child wants a private conference?
8. From your own school experiences identify and describe an incident in which your teacher could have used role playing to help some child improve his social-emotional adjustment.
9. What have you seen teachers do to help pupils satisfy their basic needs? Also cite several instances where a teacher's behavior interfered with a child's satisfying his basic needs.

10. What guidance services can teachers offer without the help of a specialist? What additional services can they offer with specialists' aid?
11. How can the teacher determine to whom he should refer pupils?
12. How can uninterested persons be encouraged to participate in the guidance program?
13. What are the chief advantages of organizing a guidance committee?
14. What factors should be considered in organizing a guidance committee?

SUGGESTED READINGS

- Arbuckle, Dugald S., *Guidance and Counseling in the Classroom*. Boston, Mass.: Allyn and Bacon, Inc., 1957. This book was written for teachers who are taking their first course in guidance. Though the teacher will probably want to read the entire book, we recommend these chapters: 1, "Guidance in Modern Education"; 4, "The Counseling Process"; and 5, "Teacher-Counselors in Action."
- Barr, John A., *The Elementary Teacher and Guidance*. New York: Henry Holt and Company, 1958. This book is intended to help the beginning teacher to become acquainted with guidance and his responsibility for it. Part I deals with basic mental hygiene concepts and their implications for guidance. Part II describes the techniques that may be used in helping elementary-school children. Part III discusses home-school relations. Part IV deals with child study techniques, and Part V with special problems in the guidance program.
- Cottingham, Harold P., *Guidance in Elementary Schools: Principles and Practices*. Bloomington, Ill.: McKnight and McKnight Publishing Co., 1956. Though this book is concerned with principles and practices, its primary purpose is to present successful school guidance practices. We recommend that you read Chapter 1.
- Frazier, Alexander, "The Teacher and Counselor—Friends or Enemies," *National Education Association Journal*, 38:104-5 (February 1949). Look for the answers to these questions: (1) What factors seem to account for conflict between counselors and teachers? (2) What behavior suggests good teacher-counselor working relationships?
- Heaton, Margaret M., *Feelings are Facts*. New York, N. Y.: The National Conference of Christians and Jews, 1952. This classroom teacher has produced a pamphlet which teachers will find very useful in understanding pupils' feelings and in helping them cope with their feelings.

- Ohlsen, Merle M., *Guidance: An Introduction*. New York, N. Y.: Harcourt, Brace & Co., 1955. This book was written to help prospective and practicing teachers become acquainted with basic guidance services, to discover the relationship among these services, to organize their resources, and to use guidance techniques in helping pupils solve their problems. Perhaps Chapter 1, "Organizing a Guidance Program"; Chapter 2, "Helping Children Satisfy Their Basic Needs"; Chapter 12, "The Counseling Relationship"; and Chapter 13, "Counseling the Individual" would be most pertinent here.
- Redl, Fritz, and Wattenberg, William W., *Mental Hygiene in Teaching*. New York, N. Y.: Harcourt, Brace & Co., 1951. Though teachers should find the entire book useful in understanding their pupils' behavior and in applying mental hygiene principles in the classroom, Chapter 16, "Teachers' Problems," is especially pertinent here.
- Shaftel, George, and Shaftel, Fannie, *Role Playing the Problem Story*. New York, N. Y.: The National Conference of Christians and Jews, 1952. This pamphlet explains how a teacher can prepare his class for sociodrama, select participants, assist those who play roles, utilize the audience, and involve his pupils in evaluating the role playing experiences.
- Snyder, W. U., "Do Teachers Cause Maladjustment?", *Journal of Exceptional Children*, Part I, 14:40-46 (November 1947); Part II, 14:73-78 (December 1947). In this paper Snyder summarizes research on the relationship between the teacher's mental health and his pupils' mental health.
- Wiley, Roy D., *Guidance in Elementary School*. New York, N. Y.: Harper & Brothers, 1952. In addition to describing guidance services, Wiley describes a number of school guidance programs. For our purposes here we recommend that you read the following chapters: 1, "Guidance in the Elementary School"; 4, "The Challenge of Children's Needs"; and 5, "Mental Health: Its Hazards and Hygiene."

SUGGESTED FILMS

- Answering the Child's Whys*, Encyclopaedia Britannica Films, Inc., 1951 (13 minutes). This film pictures a number of situations in which youngsters ask questions, it also reveals how children react to the adults' answers.
- Danny Rebels*, Teaching Film Custodians, Inc., 1948 (8 minutes). In this film you can observe a series of events which results in Danny deciding to leave home.

- Guidance Problems Home and School*, Bureau of Publication, Teachers College, Columbia University, 1941 (18 minutes). This film shows how an understanding teacher helped Danny, a second grader, who was capable but doing poorly in school.
- Helping Teachers to Understand Children*, United World Films, Inc., 1953 (21 minutes). This film was produced at the Child Study Institute, University of Maryland, to show how a faculty may set up child-study group and obtain assistance from consultants.
- The Quiet One*, Athena Films, Inc., 1948 (67 minutes). Here you can see how a Negro boy from a bad home situation in the New York slums was helped in a school for delinquent boys.

Parent-Teacher Relationships

*"Parents in America prize their children. They work for them. They care for them. They want the best for them. A child is treasured, not exploited. This is true for all but an infinitesimal number of children in our country."*¹

IS THIS REALLY TRUE or do most teachers remember most vividly those who failed their children, and consequently created problems for them? Perhaps most teachers also remember some parents who were really interested in their children but did not understand them adequately to be good parents. After much thought we concluded that Hymes was right. Anyway, even those who exhibit little interest in their children can be reached most effectively when the teacher treats them as though they want to help him do what is best for their children.

Some parents who treasure their children appear to be extremely prejudiced because they cling to beliefs about rearing and educating children which teachers cannot accept. They need information on child-rearing methods and they can help the teacher understand why the child behaves as he does, but first the teacher must reach these parents and win their confidence. Techniques for achieving these goals are described later in this chapter.

¹ James L. Hymes, *Effective Home School Relations*. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1953, p. 13. Reprinted by permission.

Other parents love their children and want to do well by them, but do not have sufficient knowledge of child growth and development or do not spend enough time with them to understand and appreciate their children's feelings, or do not know how to communicate love to their children and to accept their children's love. Though we live in a land of plenty, some do not even understand their children's needs sufficiently well to provide them with appropriate food and clothing. Fortunately, most of these parents want and are grateful for assistance, but they also want to be accepted and respected as individuals and to feel that they too can help the teacher work most effectively with their children.

But this very interest in their children's welfare must be treated with tenderness and care. "Everything you do in home-school relations touches on sacred soil—on the child and on the parent himself. In this field tread lightly. You are not talking about the weather, but about the parents' children—and about the parents' efforts—and parents' hopes."²

What are the primary goals of good parent-teacher relationships?

1. To bring about a better understanding, between teachers and parents, of what children are like;
2. To bring about a better understanding, between parents and teachers, of good education.

When these goals are achieved, parents and teachers work together as a united team, and youngsters gain in two ways:

1. They have a richer, fuller, more nourishing life, in school and out, than would otherwise be open to them,
2. They have more consistent guidance in school and out; they stand a better chance of living up to the peak of their powers.³

Feelings that Interfere in Parent-Teacher Relationships

The teacher often has difficulty accepting parents who do not understand and appreciate those parts of the school program which he values most highly. When, for example, a parent criticizes an art

² *Ibid.*, p. 17.

³ *Ibid.*, p. 9.

program which brings forth the children's best creative efforts, or insists on phonetics being taught before pupils can profit from it, or questions the emphasis on geography in social studies, the teacher may resent it and conclude that the parents' negative comments and lack of support for the school's program are endangering his chances for success in dealing with the pupils (and this is probably true). The teacher also tends to reject parents whom he feels neglect their children.

Even though he is justified, such negative feelings interfere with good parent-teacher relationships. If, instead, the teacher would encourage parents to discuss their negative feelings with him and would try to understand why these parents feel and behave as they do, he would improve parent-teacher relationships and thus improve the pupils' school adjustments. In addition, listening to parents' complaints brings to the surface problems which should be corrected, reduces the parents' needs to complain about school practices in public where serious damage may be done, and sets the stage for the teacher to present and defend school practices. Until parents have had an opportunity to express their views in a climate of acceptance, they are not apt either to listen attentively or to re-evaluate the soundness of their own views. In other words, the teacher must be able to defend his practices without becoming defensive.

On the other hand, some parents have negative feelings toward teachers and the school program in general. Many of these parents never fully appreciated what the school had to offer while they were in school, and perhaps their parents before them did not do so either. To make matters worse, they may have experienced failure and teacher rejection as pupils. Patience and real understanding of human nature are needed by the teacher to enlist their cooperation and to convince them that the teacher is genuinely interested in their children's welfare.

There are others who have accepted a teacher's or principal's invitation to discuss school problems frankly and have found that the one who invited the criticism could not accept it. Though he invited parents to ask questions about school practices, to make

suggestions for improving the school's program, and to state their complaints, all that the staff member really wanted to hear was what parents liked about the existing program. Some parents who have had such experiences are certain that their children were penalized subsequent to their discussions with the school staff. These wounds heal slowly.

When parents believe that their child is being treated unfairly or that the teacher does not understand him or that the teaching is poor, they often request that the child be transferred to another teacher. Naturally, this threatens the teacher. Most principals tend to deny such requests. Frequently they do not even try to determine whether the request is justified. Such behavior on the principal's part tends to damage parent-school relations. The least he should do is to enlist the teacher's assistance in securing the facts on the case, make a decision with the help of the teacher, and report his decision to the parents in a conference in which he also gives the parents his reasons for the decision. If instead of fighting the case the teacher would enlist the help of colleagues in a case conference, he could learn how others perceive the child and obtain their suggestions for helping the child. He also would obtain information which would help him decide whether it would be to the best interest of the child to be transferred to another teacher. (This may also be to the best interest of the teacher. Forcing a child to adjust to a teacher with whom he feels uncomfortable can make both the pupil and his teacher very unhappy.) Furthermore, such fair treatment usually wins the parents' respect for the teacher, and thereby builds good parent-school relationships.

Obviously, members of the staff must be prepared to accept criticism before they encourage parents to discuss school problems with them. Until they can accept criticism, it is very unlikely that they will be able to build good working relationships with parents.

A quite different problem arises when parents do not know what the school staff expects from them and what they may expect from the school staff. For example, parents often wonder what teachers expect them to do about homework. Here are some questions that bother them: Should we help our children plan regular study sched-

ules? Should we help our children with their home work? Does the teacher use some special methods which we should know and use? To what extent should we encourage our children to do periodic review for tests? What can we do to reinforce the school's efforts in self-education (e.g. with science projects and reference reading)? If we find that we can afford to buy a set of encyclopedias, what should we look for in buying a set? Would we do better to buy something else instead of a set of encyclopedias? Parents ask these questions, and they are good questions, and the teachers should help them obtain the answers. Perhaps they are not the questions which teachers should answer for parents. Instead, parents should be given an opportunity to discuss these questions at one of the first—preferably *the* first—PTA meeting (obviously, both the conditions within the home and the teacher's programs will determine the best answers for parents). Best results are usually obtained when provision is made for each teacher to meet with his pupils' parents in order for him to outline his program for the year and to answer parents' questions concerning the program and their teaching responsibilities. In addition to presenting his primary goals and telling how he hopes to achieve them, he should enlist parents' assistance in deciding what parents may expect from the teacher and what the teacher may expect from parents. These sessions in turn may be supplemented by child-study groups which are sponsored by the local PTA.

In almost every school there are a few parents who are unduly concerned about the mistakes which they have made in rearing their children. Though they do not harbor negative feelings, they need to talk things out with someone whom they can trust. Some need information, others have adequate information, but need help in reconciling the conflicting points of view expressed by different authorities. They also may need reassurance which they can obtain from an understanding teacher who seems to accept them as persons and solicits their aid in working with their children.

Finally, too many parents assume that something is wrong when a teacher tries to arrange for a home visit or private conference. Consequently, when contacted, these parents tend to be defensive. This will disappear only when they discover for themselves that the teacher wants to help them and wants them to help him.

Building Wholesome Relationships with Parents

Most parents want to do the right thing. Frequently, they are not sure what they should do to be most helpful, and telling them what is expected in and of itself is not sufficient. Though it helps to devote some time on parent-visiting nights to this topic, the parents' perception of the teacher and of the school in general will be the principal factor in determining the degree to which they cooperate with teachers. These perceptions of parents tend to be determined by the community's general appraisal of that particular school, by the pupils' perceptions of their teacher, and by the parents' contacts with the various members of the staff. Good community-school relationships contribute to good parent-teacher relations, and good parent teacher relationships contribute to good community-school relationships. The teacher can help improve these relationships by helping parents when they seek assistance and by seeking parents' assistance when he needs it.

Parent-Initiated Conferences

When a parent solicits a teacher's assistance with a problem he is usually ready to accept the teacher and to work on the problem. It thus becomes relatively easy for the teacher to establish a friendly, permissive relationship with this parent. Even then the teacher must play the role of a good host—giving the parent a friendly greeting, taking his wraps, and making sure that he is comfortably seated. The teacher also must make it easy for the parent to talk. Though the parent wants to talk about the thing which is bothering him, he may begin with something else. He may want to test the teacher first to decide whether he can trust the teacher with the problem which he came to discuss. Only when he senses that the teacher accepts him, wants to help him, and can be trusted with personal information will he decide that it is all right for him to talk about anything which is important to him.

When the parent starts talking, the teacher should help him

continue.⁴ When he waits for the teacher to begin, the teacher should "give him the ball." The teacher may accomplish this with a comment such as "What would you like to talk about?" Such a comment indicates to the parent that the teacher realizes that the parent came in for a specific purpose, and therefore he knows what he wants to discuss.

Obviously, the teacher must consider not only what he says, but also how he says it. Using the right words is not sufficient by itself; said in the wrong way even the right words may threaten or antagonize a parent.

Some writers have suggested that the teacher use "small talk" to relax the parent and to put him at ease. They assume that social conversation creates parent readiness to discuss his problems concerning his child. This is a questionable assumption; it wastes time for both and it may encourage the parent to evade a problem which he came prepared to discuss. When a parent appears to have trouble talking about his child's problem, the teacher should respond to the parent's feelings, and thereby increase his readiness to discuss the problem.⁵

Sally's mother is a good example of just such a situation. She was preoccupied with helping Sally's sister, Jane, a deaf pre-school child, learn to talk. Though she came to school to enlist the teacher's aid in helping Sally, she was primarily concerned with Jane's problem. After the mother described the many hours she spend teaching Jane to talk, and hinted at Sally's apparent resentment of Jane, she paused and waited for the teacher to speak. The teacher said, "Helping Jane learn to live a normal life is very important to you, and Sally doesn't seem to understand why you must spend so much time with Jane. In fact, there are times when you resent Sally's demands for attention. On the other hand, there also are times when you can understand why Sally feels neglected." The mother hesitated a moment to reflect on the teacher's response to her feelings before she spoke, and then agreed that the teacher had described her feelings accurately. She also added: "It is little wonder that Sally's school work has suffered, and that Sally has been antagonistic toward Jane." To this the teacher said, "If you feel like telling me more about the situation, perhaps it would help me understand Sally better than I do now;

⁴ See the section on "Private Conferences with Pupils" in Chapter 19.

⁵ *Ibid.*

of course, this, in turn, would help me work with Sally more effectively." At this point the mother cried a bit. The teacher accepted the mother's tears without trying to re-assure or console her. Because of this, she was not ashamed of her tears. Then the teacher said, "Many parents find that it is difficult to discuss such topics. Frequently, they can discuss them easier after they have told me why they hesitate to discuss them with me." This comment encouraged the mother to describe her reservations about discussing personal matters with a teacher. The conversation on this topic made the mother feel that the teacher understood her, and opened the way for her to discuss frankly the problems in the home which were interfering with Sally's school work.

Though a friendly conversation about the weather or the last PTA meeting may have been interesting to Sally's mother and her teacher, it is unlikely that such a discussion would have created in the mother readiness to explore the causes behind Sally's problems. Usually more is accomplished by helping a parent describe why certain problems are difficult to discuss than by wasting time with "small talk."

The Antagonistic Parent

When an angry or antagonistic parent comes to a teacher, the problem of creating a good relationship is very different from the one described above. With these parents best results are usually achieved by helping the parent to express his negative feelings and to state his complaints with reference to specific problems. The mere stating of negative feelings tends to reduce tension and to increase readiness in the parent to explore the positive elements in the situation. If a teacher can help a parent release these negative feelings without arguing with him, this in itself tends to convince the parent that the teacher is an understanding person who sincerely wants to help his child—perhaps the single most important factor in building good parent-teacher relationships.

Furthermore, being able to accept such antagonism makes the teacher feel good too. Though at first he feels angry and wants to fight back when an angry parent criticizes him and the school's program, he realizes that such behavior will interfere with his efforts

to do what is best for the child involved. He also realizes that his ability to accept negative feelings expressed by the parent indicates that he is a mature person who can control his behavior in order to further his pupil's best interest.

Teacher-Initiated Conferences

When a teacher initiates the conference, he should state the purpose of the conference and explain how he believes each may help the other. Until the parent recognizes the value of the conference and believes that the two of them can cooperate to achieve objectives which will benefit the child, little can be accomplished.

Though the parents' previous perception of a teacher is always an important factor in developing good relationships, it is particularly important when the teacher initiates a conference (and this perception is usually determined at least in part by the pupil's perception of the teacher). Being an accepting person in the conference in itself is not sufficient; good relationships can develop only when the teacher's behavior, outside as well as within the conference, enhances trust. In addition to being skilled in developing a good relationship, the teacher must keep confidences. Even a single instance of breaking a confidence can damage a teacher's relationships with many parents. What parents tell a teacher in confidence should be discussed with no one without first obtaining the parents' permission.

Failure to sense the parents' concern about a problem, which in the teacher's eyes is not a serious one, also is damaging. When a teacher minimizes the significance of a problem which worries a parent (even though it is not sufficiently serious to justify the concern), the parent tends to conclude either that the teacher does not understand how he feels or that the teacher is not sufficiently interested in his child. Hence, the teacher's attempt to reassure a parent with a comment such as "That is a minor matter, don't let it worry you," can be, and frequently is, completely misunderstood, and consequently it damages the relationship.

Most parents want the rest of the world to believe that theirs is a happy home. Inasmuch as the things which interfere with their child's best possible school adjustment often stem from problems

within the home and neighborhood, it is little wonder that they have trouble discussing these problems frankly with a teacher; most tend to be ashamed of their failures. Frequently, the problems call for a discussion of topics which are so personal that a parent wonders if he can discuss them with anyone. When this is the case, the teacher may have to review what the parent may expect from him. The parent should feel free to talk about anyone or anything that would help the two of them to understand the child and to work with him, and realize that everything told to the teacher in confidence will be kept confidential. As we said earlier, the teacher also may have to help the parent explore the reasons why certain topics are difficult to discuss.

Though both the teacher and the parent must contribute information and suggestions which will enable the two of them to help the child, some teachers talk too much and thereby prevent the parent from making his contributions. The following suggestions should help the teacher avoid this mistake: (1) listen attentively to what the parent has to say; (2) allow sufficient time for the parent to finish saying what he has to say; (3) try to sense what the parent is feeling and help him describe these feelings; and (4) try to accept him as a person and to look at the problem from the parent's point of view.

Whatever the teacher can do to make it easy for parents to discuss their children's school problems with him tends to improve parent-teacher relationships. Of course, this is not true when a teacher attempts to help parents with problems which should be referred to a specialist. To avoid this error, the teacher must be able to recognize clues that suggest serious problems and know the referral resources. Behavior associated with poor adjustment is described in Chapter 3 and referral agencies in Chapters 2 and 18.

Communications with Parents

What should be communicated between teachers and parents? Ideally, each should share with the other what he knows and exhibit willingness to cooperate in doing what is best for the child.

The Long Beach *Handbook for Parent-Teacher Conferences* answers the above question as follows:

What parents can learn from teachers

- How the child is getting along with others in school
- How the child is progressing in school work
- How the child is taking part in the school program
- What attitudes the child has in school
- What special interests the child might have
- What recent changes teachers have noticed in the child
- What special help the child might need. . . .⁶

What teachers can learn from parents

- How the child feels about school
- How the child spends his spare time outside of school
- What particular problems the child might have
- What talents, interests, and hobbies the child might have
- What attitude the child has in the home
- What recent changes parents have noticed in the child
- What special help the child might need.⁷

If these goals are to be achieved provision must be made for parents to communicate with teachers, too. The old notion of teachers reporting to parents is no longer adequate.

Observable trends reported by Eilsbree in 1943 represent first steps toward increased parent participation in child study:

1. A trend away from formal routine card to diagnostic letters and personal notes.
2. Greater emphasis upon reporting the social and emotional development of children.
3. A trend toward reporting pupil progress in terms of the individual's growth and not in terms of class norms.
4. A change from the use of negative statements in reporting, such as "wastes time" to more constructive comments such as "needs help in methods of study."
5. A trend away from monthly to quarterly reports and in many school systems to twice a year or less.

⁶ *Handbook for Parent-Teacher Conferences*, prepared by a Committee of Parents, Teachers, Attendance Counselors, and Administrators under the supervision of Doris H. Gregory in the Division of Instruction, Office of Curriculum Development, Long Beach Public Schools, 1955, p. 3.

⁷ *Ibid.*, p. 4.

6. Less uniformity within city school systems than formerly and more encouragement for individual schools to experiment with reporting media and to work out their own program of communicating with parents.⁸

Though many elementary schools still send some type of routine report to parents, there has been a substantial increase in the use of the parent conference since Elsbree wrote the pamphlet cited above. A fairly common practice is to send parents a routine report four times a year and to supplement it with one or two parent conferences.

Parent Conferences

Carefully planned and well-conducted parent-teacher conferences are indispensable tools for improving parent-teacher relationships and for exchanging information between teacher and parents. The committee that prepared the Long Beach *Handbook for Parent-Teacher Conferences* said that parents and teachers need to confer for the following reasons:

- They share the same job of helping the child develop to the fullest of his potentialities.
- They have information about the child that can be mutually helpful and should be shared.
- They need to plan together to accomplish most for the child.
- They need to compare notes from time to time on progress the child is making.
- They have similar and different purposes for the child that each should know.
- They need to know each other as people and feel free to communicate readily.⁹

Why is it then that every elementary school does not provide for parent-teacher conferences and that some teachers dislike parent-teacher conferences? Is it merely a matter of time? We think not. Some administrators question whether such conferences are worthwhile; others take the attitude that "things are going well now—why

⁸ Willard S. Elsbree, *Pupil Progress in the Elementary School*. New York, N. Y.: Bureau of Publications, Teachers College, Columbia University, 1943, p. 86.

⁹ *Op. cit.*, p. 2.

run the risk of getting into trouble?" Our experiences with teachers suggest that those who are critical of parent-teacher conferences have had unhappy experiences with them because they were called upon to conduct such conferences without knowing what they were supposed to accomplish and how to cope with the various types of problems described in two earlier sections of this chapter: "Feelings That Interfere in Parent-Teacher Relationships" and "Building Wholesome Relationships With Parents."

Even when the administration recognizes—as most do—the value of parent conferences and provides the necessary in-service education for teachers, some conferences may fail to produce the best results because the teacher failed to plan for each conference. Adequate planning for a conference includes the teacher's analysis of the pupil's record in order to identify the special questions for which he needs the parents' answers and to review the pupil's progress so that he will be able to answer the parents' questions. This means, among other things, that he must be prepared to interpret test scores.¹⁰ Samples of the pupil's school work also should be readily available for the teacher to use in illustrating points.

In a previous section of this chapter we discussed the things the teacher may do to help create a friendly, permissive relationship with a parent. Among other things we said that the teacher should try to look at the situation from the parent's point of view.

Usually the parent has some preconceived notion of what his child is like; he also may have identified problems which worry him. Even when a parent asks a specific question, the teacher should try to sense how the parent really feels in order to decide whether he is merely asking for information or expressing concern about some potential deficiency in his child. Information which does not agree with these preconceived notions tends to be ignored unless it can be discussed in a friendly, permissive atmosphere in which parent can express his fears and explore his doubts with a minimum of threat to himself and his child. Such a climate also is needed to obtain from him frank answers to the teacher's questions. The

¹⁰ Suggestions for the use and interpretation of tests are presented in Chapters 3 and 4. Since most elementary school teachers are asked to interpret only achievement tests and mental tests, Chapter 4 will be especially useful here.

teacher will obtain the best answers to his questions when the questions are relevant to the topic of conversation and when the relationship is such that the parent feels comfortable in sharing the information. Though a parent appreciates a chance to talk with a teacher about his child, he tends to resent being told things that he does not want to know and asked questions that he does not want to answer.

Finally, what record should be kept on the parent-teacher conference? Earlier in this section we cited the Long Beach *Handbook's*¹¹ answers to "What teachers can learn from parents." When any of these questions are discussed, the teacher should make a record of the parent's answers for the child's cumulative folder. He also should make a record of the things which both he and the parent agree to do to help the child.

Since many writers caution the teacher against taking notes during the conference, we feel that this point deserves special consideration. Only the teacher can decide whether he should take notes during a conference. Some teachers can follow the conversation and take notes at the same time. Others feel uncomfortable when they take notes—usually they either are distracted by their own writing or they do not feel they can justify their notes without making parents suspicious of their motives. If the teacher can develop a short-cut system for keeping a running account of the key ideas discussed, follow the conversation, explain to the parent why he makes notes,¹² and feel that it is appropriate for him to take notes during the interview, he should do so. A running account of the important topics discussed produces a more accurate record of what actually happened than notes that are recorded after the conference. If he cannot take notes during the conference, he must reconstruct the conference as fully as possible immediately after it is concluded.

¹¹ *Op. cit.*, p. 3.

¹² All he has to say is that he wants to be sure that he has an accurate perception of the child and that keeping good notes enables him to do this better. He also should add that the parent may read his notes and delete anything which he doesn't want recorded in the child's cumulative folder. Whenever only one parent is present, he also may want to take notes to insure an accurate report to the other parent later. The teacher may encourage this with an offer of writing materials.

The Home Visit

Except for the fact that the teacher is the guest instead of the host during a home visit, the goals are essentially the same as in the parent conference. Even when a teacher makes a home visit at his own suggestion because the parent cannot come to school for regular parent-teacher conference, and he has put himself out to accommodate the parent, he must remember that he is a guest in another's home. Among other things this means that he must adjust himself to the conditions within the home and watch for cues which suggest that he may be interfering with other activities of the host.

On the other hand, the home visit has certain obvious advantages over parent-teacher conferences at school: it provides the teacher with an opportunity to observe the general physical conditions within the home and to appraise the child's relationship with his siblings, his parents, and any others who live in the home. Even though the teacher tends to see the family when its members are on their good behavior, he can get a rough estimate of what the family is really like—especially when he supplements his impressions with the child's comments about his home life.

Written Communications

The routine report to parents used in many elementary schools today contains essentially the same elements (an attendance report, an appraisal of performance in school subjects, and an appraisal of character traits) that it did at least twenty-five years ago. However, today more schools are focusing attention on the individual's growth in terms of his own potential rather than comparing his performance with his classmates, and some educators believe that these written reports should be replaced with parent conferences. Nevertheless, most parents still expect a written report and tend to associate a letter grade with descriptions such as those listed below (similar descriptions also are used to evaluate character traits and work habits):

- a. Exceptionally good work.
- b. Satisfactory work.

- c. Needs to improve but he can make the improvement with a little more effort.
- d. Needs to improve but he can do this only with remedial instruction.
- e. Unsatisfactory for him, but his work is up to grade level.
- f. Unsatisfactory—grade placement should be re-evaluated.

In Chapter 3 we suggested a more meaningful, diagnostic type of report to parents. It is a rating sheet designed to answer parents' questions about their children's school progress. The instrument consists of questions with multiple-choice answers. The staff obtains the multiple-choice answers first by answering the questions in personal letters to parents and then by selecting from the answers in the letters the most frequent answers to each question. In other words, each multiple-choice response which is used to answer each question is a precise description of behavior and is used only for that one question.¹³ Thus, the staff can avoid vague, general descriptions which may be misinterpreted because the same terms mean different things to different people.

If the teachers are worried about parents who want letter grades, they can continue to report grades and use a rating sheet to describe pupils' work habits, study skills, and social-emotional adjustment. They also may wish to supplement the letter grades in school subjects with this diagnostic type of description for performance in each subject. Where such rating sheets have been developed with parents' assistance, even those who originally were critical of the grading system tend to recognize the advantages of this diagnostic type of report.

Why develop a rating sheet of the type described above? Would not a personal letter to parents provide them with a better description of their child, and at the same time encourage a response from them? The personal letter can do all the things inferred in the previous questions. However, the additional time required to write a letter for every pupil (especially with no secretarial assistance for teachers) may be better used for parent-teacher conferences and work with individual pupils. The diagnostic rating sheet also can, in

¹³ A more complete description of the development of this rating sheet and a sample question may be found on pages 63-69, Chapter 3.

any case, be used to solicit parents' appraisals on the same traits and be returned to school for teacher's use.

Thus we see that good parent-teacher relationships are built upon a number of important elements: good teaching, a good school program, good pupil-teacher relationships, the staff's sincere interest in parents' problems and their children's welfare, the staff's ability to communicate this interest to parents, and good communication between parents and staff. Furthermore, developing good parent-teacher relationships is the first step in building good community-school relationships.

DISCUSSION QUESTIONS

1. Why do parents resent a teacher's efforts to minimize the seriousness of a child's problems?
2. Why should a teacher listen to parents' unjustified complaints without defending himself?
3. What can a teacher do to help a parent talk freely about his child's problem?
4. How may a teacher obtain a parent's perception of his child on a rating sheet?
5. What may teachers do to make parents feel accepted and understood?
6. Why do many parents find that it is so difficult to accept a teacher's criticisms of their child?
7. How may a teacher's negative feelings interfere with parent-teacher relationships?
8. Why is it that most teachers can work with those parents who seek assistance from teachers more easily than with those from whom the teacher solicits assistance?

SUGGESTED READINGS

Boatright, Helen, "Teacher-Parent Conferences," *American Childhood*, 41:22-3 (June 1956). This paper describes the advantages of parent-teacher conferences and explains how the teacher can use a check list to give parents a diagnostic picture of pupil progress in school.

- Coleman, William, "Conducting Teacher-Parent Conferences," *Understanding the Child*, 25:11-18 (October 1956). In this paper Coleman describes the necessary conditions for a good parent-teacher conference and the kinds of information a teacher can obtain from them.
- D'Evelyn, Katherine E., *Individual Parent-Teacher Conferences*. New York, N. Y.: Bureau of Publications, Teachers College, Columbia University, 1945. Though the teacher could profit from reading the entire pamphlet, perhaps Chapter 5, "How to Write Conference Reports," would be most useful.
- Fishbein, Willard S., *Pupil Progress in the Elementary School*. New York, N. Y.: Bureau of Publications, Teachers College, Columbia University, 1943. This pamphlet is basic reference for teachers. We recommend Chapter 7, "Marks and the Marking System," and Chapter 8, "Reporting to Parents." In particular you should note how he answers these questions: (1) To what extent does the school's system for reporting to parents reflect its primary goals? (2) If a report card is used, how should it be developed?
- Freeland, Alma M., and Dent, Charles H., (eds.), *Reporting is Communicating: An Approach to Evaluation and Marking*. Washington, D. C.: Association for Supervision and Curriculum Development, 1956. This cleverly written pamphlet uses an interesting story to present the problems a school system faces in changing its method of reporting to parents. The author's answers to the following question suggests how useful it is: (1) How were parents involved in improving the reports to parents? (2) How do you feel about the way Jim Wells handled the emergency session? (3) How may a school faculty decide what should be reported to parents? (4) What common incentives do parents and teachers have for communicating with each other?
- Grant, L. J., "Parent's Report on a Parent Conference," *Nation's Schools*, 58:86 (October 1956). In this short article a superintendent reviews a mother's reactions to her first parent-teacher conference.
- Handbook for Parent-Teacher Conferences*, prepared by a Committee of Parents, Teachers, Attendance Counselors, and Administrators under the supervision of Doris H. Gregory, Division of Instruction, Office of Curriculum Development, Long Beach Public Schools, 1955. This is an excellent handbook which teachers will find to be very useful for in-service education workshops.
- Hymes, James L., *Effective Home-School Relations*. New York, N. Y.: Prentice-Hall, Inc., 1953. This short book tells in a convincing way why good parent-teacher relations are important. It also reveals its author's wonderful understanding of parents, teachers, and children.
- Reporting to Parents*. Orange, Texas: Orange Public Schools, 1948. This

report describes the philosophy of education on which their reports are based, describes specific cards used, and shows how they may be used to provide parents with a diagnostic picture of pupil growth.

Rothney, John W. M., *Evaluating and Reporting Pupil Progress*. Washington, D. C.: Department of Classroom Teachers and American Educational Research Association, N.E.A., 1955. In this pamphlet Rothney reviews the research on evaluating and reporting pupil progress which seemed to be of most use to classroom teachers.

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In addition to his many years of classroom experience with both children and student teachers, he has served as the principal of a senior high school, worked as part-time counselor in the Student Counseling Center at the State College of Washington, and for seven years was Head of Student Teaching at the University of Illinois.

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